

ADVANCING  
**FORMative**  
**ASSESSMENT**  
IN EVERY CLASSROOM

**a GUIDE FOR INSTRUCTIONAL LEADERS**



1703 N. Beauregard St. • Alexandria, VA 22311-1714 USA  
Phone: 800-933-2723 or 703-578-9600 • Fax: 703-575-5400  
Web site: [www.ascd.org](http://www.ascd.org) • E-mail: [member@ascd.org](mailto:member@ascd.org)  
Author guidelines: [www.ascd.org/write](http://www.ascd.org/write)

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# ADVANCING FORMATIVE ASSESSMENT IN EVERY CLASSROOM

## a GUIDE FOR INSTRUCTIONAL LEADERS

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## INTRODUCTION

**Formative assessment, when used** effectively, can significantly improve student achievement and raise teacher quality. Yet high-quality formative assessment is rarely a consistent part of the classroom culture. Teachers are neither sufficiently familiar with it nor equipped with the knowledge or the skill to put formative assessment to work for themselves and their students.

This book is intended as a resource for school leaders as they work with teachers to make the formative assessment process an integral part of their classrooms. We focus on classroom-level practices that affect student learning and achievement, build capacity, and foster schoolwide outcomes that can meet the demands for high-stakes accountability facing today's education professionals. And amid calls for data-driven decision making, we intentionally focus the book on practices that put information about learning into the hands of the most important decision makers of all—the students.

We have organized this book so that school leaders, school teams, and collaborative groups can use it as a guide to engage in highly effective formative assessment practices that promote school improvement and increase student achievement. We place particular emphasis on the ways that the formative assessment process enables students to harness the workings of their own minds to become intentional and skilled learners.



We begin in Chapter 1 with an overview of the formative assessment process—what it is and what it is not. Then, to emphasize classroom practices that not only help students achieve but also help them learn how to learn, we have organized the next six chapters around six elements of the formative assessment process—one per chapter—that we believe have a particularly powerful effect on student learning and teacher quality. We have arranged the elements in a logical sequence that has been, in our experience, very successful in helping teachers integrate formative assessment practices in ways that build on the elements’ interrelated nature to maximize their effect. School leaders who support and coach teachers in these practices will help teachers and students succeed. We use the following set of Q&A prompts to examine each element of the process and show its connection to increased student achievement and motivation to learn:

- What is it?
- How does it affect student learning and achievement?
- What common misconceptions might teachers hold?
- What is the “motivation connection”?
- What are specific strategies I can share with teachers?
- How will I recognize it when I see it?
- How can I model it in conversations with teachers about their own professional learning?
- What if?

As the sequence of questions suggests, we structure each chapter first to “tell.” We explain the element of the formative assessment process, supporting our description with relevant research on its effects in the classroom. Next, we use classroom examples to “show” how teachers and their students can incorporate formative assessment into their day-to-day, minute-by-minute teaching and learning. Finally, we suggest strategies for using highly effective classroom practices that boost student achievement, maximize the collection and use of strong evidence of student learning, and bring increased clarity and coherence to the teaching-learning process. These strategies are useful for all teachers in all grades, subjects, and content areas. In other words, each of these chapters not only covers the “what” and the “how” but also begins with perhaps the most important aspect, the “why.”



We also use Chapters 2 through 7 to describe practical ways that school leaders can model and use the elements of the formative assessment process during conversations with teachers. We envision these conversations happening as part of formal classroom observations and informal classroom walk-throughs and during other communication with individual teachers and teacher groups. These formative conversations can enrich professional relationships, promote a schoolwide culture of inquiry, and encourage teachers to learn together about the significant relationship that exists between the quality of their teaching practices and the level of student achievement in their classrooms.

We finish each of these chapters by providing two ways for educational leaders to extend their thinking about the focus of the chapter. First, we provide a short “What If?” scenario to help you think through possible challenges and to offer supportive advice. Second, we suggest reflection questions to assist you in gauging where you are in terms of high-quality formative assessment practices. Finally, each chapter concludes with a summary of the major points.

In the book’s final chapter, we discuss taking formative assessment schoolwide and note the role that formative assessment can play in transforming all learning and all learners in the school. As educators inquire together about the quality of their classroom practices, they can continually refine their professional knowledge and expertise.

It is our hope that the ideas presented here will lead to increased understanding of how formative assessment can affect student learning and achievement, because after all is said and done, that is its primary purpose. We also hope that school leaders will see this book as a resource they can tap again and again as they use the formative assessment process to dramatically influence teaching and learning in their schools.



# 1

## THE LAY OF THE LAND: Essential Elements of the Formative Assessment Process

When teachers join forces with their students in the formative assessment process, their partnership generates powerful learning outcomes. Teachers become more effective, students become actively engaged, and they both become intentional learners.

We can use the metaphor of a windmill to visualize the formative assessment process and its effects. Just as a windmill intentionally harnesses the power of moving air to generate energy, the formative assessment process helps students intentionally harness the workings of their own minds to generate motivation to learn. Propelled by the formative assessment process, students understand and use learning targets, set their own learning goals, select effective learning strategies, and assess their own learning progress. And as students develop into more confident and competent learners, they become motivated (energized) to learn, increasingly able to persist during demanding tasks and to regulate their own effort and actions when they tackle new learning challenges.

When a windmill whirls into action, its individual blades seem to disappear. The same thing happens to the six elements of the formative assessment process. These interrelated elements are the following:

- Shared learning targets and criteria for success
- Feedback that feeds forward



- Student goal setting
- Student self-assessment
- Strategic teacher questioning
- Student engagement in asking effective questions

As teachers and students actively and intentionally engage in learning, the individual elements unite in a flurry of cognitive activity, working together and depending on each other. Their power comes from their combined effort.

### **What Is Formative Assessment?**

Formative assessment is an active and intentional learning process that partners the teacher and the students to continuously and systematically gather evidence of learning with the express goal of improving student achievement. Intentional learning refers to cognitive processes that have learning as a goal rather than an incidental outcome (Bereiter & Scardamalia, 1989). Teachers and their students actively and intentionally engage in the formative assessment process when they work together to do the following (Brookhart, 2006):

- Focus on learning goals.
- Take stock of where current work is in relation to the goal.
- Take action to move closer to the goal.

The primary purpose of formative assessment is to improve learning, not merely to audit it. It is assessment for learning rather than assessment of learning. Formative assessment is both an “instructional tool” that teachers and their students “use while learning is occurring” and “an accountability tool to determine if learning has occurred” (National Education Association, 2003, p. 3). In other words, to be “formative,” assessments must inform the decisions that teachers and their students make minute by minute in the classroom. Figure 1.1 compares the characteristics of formative assessment and summative assessment.

Here are some examples of the formative assessment process in the classroom:

- A teacher asks students in his 6th grade social studies class to form pairs to generate three strategic questions that will help them better meet their learning target of describing how erosion has produced physical patterns on the earth’s surface that have affected human activities.

**FIGURE 1.1**  
**Characteristics of Formative and Summative Assessment**

<b>Formative Assessment</b> (Assessment <i>for</i> Learning)	<b>Summative Assessment</b> (Assessment <i>of</i> Learning)
<b>Purpose:</b> To improve learning and achievement	<b>Purpose:</b> To measure or audit attainment
Carried out while learning is in progress—day to day, minute by minute.	Carried out from time to time to create snapshots of what has happened.
Focused on the learning process and the learning progress.	Focused on the products of learning.
Viewed as an integral part of the teaching-learning process.	Viewed as something separate, an activity performed after the teaching-learning cycle.
<i>Collaborative</i> —Teachers and students know where they are headed, understand the learning needs, and use assessment information as feedback to guide and adapt what they do to meet those needs.	<i>Teacher directed</i> —Teachers assign what the students must do and then evaluate how well they complete the assignment.
<i>Fluid</i> —An ongoing process influenced by student need and teacher feedback.	<i>Rigid</i> —An unchanging measure of what the student achieved.
Teachers and students adopt the role of intentional learners.	Teachers adopt the role of auditors and students assume the role of the audited.
Teachers and students use the evidence they gather to make adjustments for continuous improvement.	Teachers use the results to make final “success or failure” decisions about a relatively fixed set of instructional activities.

- Before a lesson on creating a family budget, a consumer science teacher states the goals for the lesson and asks the students to paraphrase the goals.
- In a high school English class, students use a rubric that they generated as a class to plan their essays, monitor their writing, and edit their drafts in order to meet the criteria for a successful essay.

- In his feedback to a 1st grade student, a teacher shows the student what she did correctly in her attempt to draw the life cycle of a frog. Then the teacher gives the student a strategy to use to improve the accuracy of her drawing before she turns in her final sketch.
- A middle school student decides to use a story map to plan his short story depicting life in the Victorian era. It will help him reach his goal of improving the organization and sequencing of his story.

### **What Three Questions Guide the Formative Assessment Process?**

The formative assessment process aligns what happens in the classroom—day to day and minute by minute—with three central questions:

- Where am I going?
- Where am I now?
- What strategy or strategies can help me get to where I need to go?

These central questions guide everything the teacher does, everything the student does, and everything teachers and their students do together. The questions are deceptively simple, yet to address them students and teachers must become skilled assessors who can gauge the gap between the students' current level of understanding and the shared learning target. Only then can they choose appropriate strategies to close the gap.

This continuous process of setting a learning target, assessing present levels of understanding, and then working strategically to narrow the distance between the two is the essence of formative assessment. Once a learning target is mastered, a new “just right” target is set and the process continues forward. It comes down to the Goldilocks Principle: to generate motivation to learn, the level of challenge and the level of support must be just right. And that means all classroom decisions—those made by the teacher and those made by the students themselves—must be informed by continually gathering evidence of student learning.

The three central questions of the formative assessment process are a great starting point for school leaders as they help teachers recognize and use formative assessment in their classrooms. The questions can guide teachers as they (1) plan

their lessons, (2) monitor their teaching, and (3) help their students become self-regulated learners. Teachers can display the questions in their classrooms and remind their students to think about them before, during, and after each learning experience.

## **How Does the Formative Assessment Process Affect Student Learning and Achievement?**

There is a firm body of evidence that formative assessment is an essential component of classroom work and that its development can raise standards of achievement. We know of no other way of raising standards for which such a strong *prima facie* case can be made.

—Paul Black & Dylan Wiliam,  
“Inside the Black Box: Raising Standards Through Classroom Assessment”

The research is clear: formative assessment works. It works because it has a direct effect on the two most important players in the teaching-learning process: the teacher and the student.

In too many classrooms, teachers and their students are flying blind. Teachers cannot point to strong evidence of exactly what their students know and exactly where their students are in relation to daily classroom learning goals. The lack of detailed and current evidence makes it particularly difficult for teachers to provide effective feedback that describes for students the next steps they should take to improve. Students are operating in the dark as well. Without the benefit of knowing how to assess and regulate their own learning, they try to perform well on assignments without knowing exactly where they are headed, what they need to do to get there, and how they will tell when they have arrived.

### **Effects on Teacher Quality**

Teacher quality exerts greater influence on student achievement than any other factor in education—no other factor even comes close (Darling-Hammond, 1999; Hanushek, Kain, O'Brien, & Rivkin, 2005; Thompson & Wiliam, 2007). Formative assessment affects teacher quality because it operates at the core of effective teaching (Black & Wiliam, 1998; Elmore, 2004). Engaged in the

formative assessment process, teachers learn about effective teaching by studying the effectiveness of their own instructional decisions. This practice promotes professional learning that is relevant, authentic, and transformational.

Despite professional development efforts focused on training teachers to use best practices in their classroom, studies clearly show that teachers do not always teach in ways that research supports as best practices for student learning. Rather, teachers teach in ways they *believe* to be best, often ignoring the findings of educational research. The distinction here is critical. Teachers' beliefs not only determine what they do in the classroom but also influence what they count as evidence that learning has occurred. And unless professional learning experiences help teachers examine their working assumptions about how students learn and how good teaching supports learning, they will not make meaningful changes in their teaching practices (Moss, 2002; Schreiber, Moss, & Staab, 2007).

Formative assessment can have a transformational effect on teachers and teaching (see Figure 1.2). In a very real way it flips a switch, shining a bright light on individual teaching decisions so that teachers can see clearly (and perhaps for the first time) the difference between the *intent* and the *effect* of their actions. Armed with this new perspective, teachers can take constructive action in their classrooms. They begin to collect and use strong evidence of exactly what works and exactly what does not work in their classrooms, with their students. And as they critically examine their own knowledge, practices, and working assumptions—during each day, during each lesson, and during each interaction with their students—they become inquiry-minded and keenly aware of exactly where they need to focus their change and improvement efforts in order to raise student achievement.

### **Effects on Student Learning**

The effects of the formative assessment process on students are just as dramatic because it engages students in learning how to learn. Students learn more, learn smarter, and grow into self-aware learners who can tell you exactly what they did to get to exactly where they are. In other words, students become self-regulated learners and data-driven decision makers. They learn to gather evidence about their own learning and to use that information to choose from a growing collection of strategies for success. And students not only learn how to take



**FIGURE 1.2**

**Impact of the Formative Assessment Process on Teachers**

Teachers Adopt a Working Assumption That . . .	Teachers Take Constructive Action to . . .
<i>Students learn more effectively when they know and understand the learning goal.</i>	<ul style="list-style-type: none"> <li>• Bring precision to their planning.</li> <li>• Communicate learning goals in student-friendly language.</li> <li>• Unpack the exact criteria students must meet to succeed on each task.</li> </ul>
<i>To help each student succeed, I must know precisely where that student is in relation to the learning goal.</i>	<ul style="list-style-type: none"> <li>• Continuously collect evidence of student learning to monitor and adapt their teaching during a lesson.</li> </ul>
<i>Effective feedback provides specific suggestions for closing the gap between where students are and where they need to be in relation to the learning goal.</i>	<ul style="list-style-type: none"> <li>• Give feedback that is focused, generative, and descriptive.</li> <li>• Develop a repertoire of feedback strategies.</li> </ul>
<i>One of the most important skills I can teach my students is how to regulate their own learning.</i>	<ul style="list-style-type: none"> <li>• Teach their students how to self-assess.</li> <li>• Make rubrics, checklists, guides, and other metacognitive tools an integral part of what students do before, during, and after learning.</li> </ul>
<i>Meaningful learning happens between minds, during strategic conversations, and when students become models of success for each other.</i>	<ul style="list-style-type: none"> <li>• Encourage students to become learning resources for each other.</li> <li>• Plan for and ask strategic questions that will produce evidence of student learning.</li> </ul>
<i>Motivation isn't something I can give to my students; it is something I must help them develop.</i>	<ul style="list-style-type: none"> <li>• Align appropriate levels of challenge and just-right support.</li> <li>• Intentionally create learning experiences in which students learn what they do well, what they should do more of, and how to focus their efforts to maximize success.</li> </ul>

ownership of their learning but also increasingly view themselves as autonomous, confident, and capable.

This combination of learning factors—ownership, autonomy, confidence, and capability—fortifies students with increased levels of resilience. Raising student resilience can derail a dangerous cycle for many students who attribute their failure to perform well on classroom tasks to a lack of academic ability. Judging themselves to be incapable of achieving and powerless to change things, they become discouraged and quit trying (Ames, 1992; Boston, 2002; Vispoel & Austin, 1995). Resilient learners, on the other hand, bounce back from poor performances and adversities. They attribute their failures and their successes on learning tasks to factors *within* their control. They rebound rather than giving up in the face of a challenge. Resilient students believe in their capacity to adapt what they are doing and how they are doing it in order to succeed.

And although formative assessment has a significant effect on learning for all students, it “helps low achievers more than other students and so reduces the range of achievement while raising achievement overall” (Black & Wiliam, 1998). For reasons we mention here and for many more we explore in later chapters, the formative assessment process is a compelling force for increasing student learning and closing the achievement gap.

### **How Does Formative Assessment Forge a Teacher-Student Learning Partnership?**

High-quality formative assessment blurs the artificial barriers between teaching, learning, and assessment to forge a culture of collaborative inquiry and improvement in the classroom. As this learning partnership grows stronger, conversations about learning become the rule of thumb rather than the exception to the rule. Teachers and students work together to gather information about the strengths and weaknesses of their performances in ways that inform *all* learners and *all* learning in the classroom. They do this by talking with one another, planning with one another, comparing evidence of learning, and setting shared learning goals that establish the parameters of what counts as evidence that learning has indeed occurred.

The bottom line is that formative assessment fundamentally changes the quality and quantity of teacher-student interactions. And every day, throughout the day, what happens in the classroom focuses squarely on student achievement.

## **What Common Misconceptions Might Teachers Hold About Formative Assessment?**

Misconceptions are the inevitable result of misunderstanding and often cause teachers to question the formative assessment process. Clearly these misconceptions can dilute the effectiveness of formative assessment and block its consistent use in the classroom. School leaders can take an active role in helping teachers build accurate understandings of what formative assessment is and, perhaps most important, what it *is not*. They can include strategic talking points in their initial and ongoing conversations with teachers about formative assessment. Here we identify common misconceptions and suggest strategic talking points for each.

**Misconception #1: Formative assessment is a special kind of test or series of tests that teachers learn to use to find out what their students know.** This is probably the most common misconception regarding formative assessment. It is directly related to our sometimes careless custom of using the terms *assessment* and *test* interchangeably. Is it any wonder teachers mistakenly assume that formative assessment is a special kind of test item, test, or series of tests—something that they must administer *to* their students in order to audit learning?

**Strategic talking points** school leaders can use to address this misconception include the following:

- Formative assessment is not a test item, a test, or a series of tests.
- Formative assessment is an intentional learning process teachers engage in *with* their students to gather information *during* the learning process to improve achievement.
- Formative assessment is a learning partnership that involves teachers and their students taking stock of where they are in relation to their learning goals.

**Misconception #2: Formative assessment is a program that teachers adopt and add to what they already do.** This misconception can be traced directly to traditional inservice workshop models of professional development. More times than not, teachers are asked to enact a program or technique prescribed by outside experts and presented to them in a one-shot workshop. It stands to reason, then, that teachers often view formative assessment as a program or method they must learn and add to what they already do. This misguided view often leads teachers to wonder how they will find time to “do formative assessment” along with everything else they already “do” in their classrooms. This additive perspective makes it particularly difficult for teachers to recognize formative assessment as a dynamic process that shifts the classroom focus from instruction to learning and represents much more than simply adding a new technique to what currently exists.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Formative assessment is not a prepackaged program or set of techniques that teachers adopt and enact.
- Formative assessment is a philosophy of teaching and learning in which the purpose of assessing is to inform learning, not merely to audit it.
- The formative assessment process is a fundamental reframing of the work teachers and students do day to day and minute by minute in the classroom.

**Misconception #3: Any practice that gathers information for the purpose of improving programs or improving teaching is a part of formative assessment.** The final misconception lies at the core of what qualifies a practice as formative assessment. Some educators mistakenly conclude that when teachers use assessment information to redesign or change a lesson, they meet the criteria of formative assessment. For example, a high school history teacher notes a troubling pattern on the final exam for her World War II unit. Half of her students mistakenly identified Germany as the country that suffered the most lasting damage from the war. As a result, she plans to change the way she teaches that

content to her students next year. She intends to spend more time discussing the concept of lasting damage so that her future students can draw conclusions that are more accurate. In this example, the teacher uses information gathered after instruction to plan improved learning experiences for future students. Although the teacher's plan is laudable, it is not an example of formative assessment.

**Strategic talking points** school leaders can use to address this misconception include the following:

- To be considered part of the formative assessment process, information gathered must be used to inform the learning of *current* students.
- Although the quality of teaching rises as a result of formative assessment, the intended outcome must be to raise the learning and achievement of the students currently in the classroom on the concepts, processes, and skills that formed the basis for the assessment.

## **What Is the Connection Between Formative Assessment and Motivation?**

The term *motivation* comes from the root word *motive*, which means “something that causes a person to act.” Using that root, we can define motivation as something that energizes, directs, and sustains behavior toward a goal. Another way to say this is that motivation is goal-directed behavior combined with the energy and the intention to work toward that goal. In a very real way, motivation gets students learning, points them in the right direction, and keeps them engaged.

Although teachers cannot “give” motivation to their students, they can nurture, foster, and help their students develop more of it. Many educators view motivation as something that comes from external factors such as rewards, incentives, punishments, and warnings—carrots and sticks. This view is not exactly flawed, because one form of motivation, extrinsic motivation, fits nicely into this description. The crux of the matter, though, is that extrinsic motivation applied to the classroom requires that the teacher use rewards (such as stickers, grades, free time, bonus points) and punishments (such as loss of recess, detention, lowering a grade) to control the motivation of students. It follows that students will only be

motivated as long as they are under the control of the teacher. Without the teacher, the motivation disappears. So much for lifelong learning!

In fact, research tells us that extrinsic rewards can actually undermine a student's internal (intrinsic) motivation over time. The most detrimental practices involve giving rewards as a direct function of a student's performance. These rewards follow a common pattern. Students who perform the best get the most rewards, and those who perform less well get fewer or no rewards. For students who cannot meet the requirements, this type of external control chips away at them over time to weaken their motivation to learn, undercut their performance, and leave them demoralized (Deci, Koestner, & Ryan, 1999). Understanding this effect, then, teachers should use extrinsic rewards sparingly and *always* as part of a plan to activate intrinsic motivation so that the external rewards can be gradually decreased and eventually removed.

In contrast, the formative assessment process has no downside. In fact, it is strongly linked to increased intrinsic student motivation. Like the windmill, formative assessment helps students harness the workings of their own minds to continuously generate and strengthen these four important components of motivation to learn:

- Self-efficacy—A learner's belief in his ability to succeed in a particular situation
- Self-regulation—The degree to which a learner is metacognitively, motivationally, and actively participating in her own learning
- Self-assessment—A learner's act of observing, analyzing, and judging his own performance on the basis of criteria and determining how he can improve it
- Self-attribution—A learner's own perceptions or explanations for success or failure that determine the amount of effort she will expend on that activity in the future

Throughout the remaining chapters, we will further unpack what we call the "motivation connection" by examining how the specific elements of the formative assessment process link to the components of intrinsic motivation. Figure 1.3 highlights those links and previews our upcoming examinations of the power of the formative assessment process to generate motivation to learn.

**FIGURE 1.3**

**Links Between Formative Assessment and Intrinsic Motivation**

Formative Assessment Elements ...	... Help Students Harness the Workings of Their Own Minds in the Following Ways ...	... to Generate Components of Motivation to Learn
Shared Learning Targets and Criteria for Success	<ul style="list-style-type: none"> <li>• Directs students and teachers toward specific goals.</li> <li>• Increases initiation for the learning task.</li> <li>• Helps students and teachers monitor learning progress.</li> </ul>	<ul style="list-style-type: none"> <li>• Self-efficacy</li> <li>• Self-assessment</li> <li>• Self-regulation</li> <li>• Self-attribution</li> </ul>
Feedback That Feeds Forward	<ul style="list-style-type: none"> <li>• Enhances cognitive processing.</li> <li>• Fosters resiliency and persistence in the face of challenge.</li> <li>• Provides students with specific next-step strategies.</li> </ul>	
Student Goal Setting	<ul style="list-style-type: none"> <li>• Increases active student engagement.</li> <li>• Shifts student focus from performance-directed to goal-directed behavior.</li> <li>• Induces effort, increases persistence, and promotes development of new strategies.</li> </ul>	
Student Self-Assessment	<ul style="list-style-type: none"> <li>• Shifts power from the teacher to the student.</li> <li>• Engages students in actively collecting and interpreting assessment information.</li> <li>• Helps students set more realistic and active goals for continuously raising achievement.</li> </ul>	
Strategic Teacher Questioning	<ul style="list-style-type: none"> <li>• Directs students and teachers toward salient elements of the content, process, or performance.</li> <li>• Scaffolds learners as they move beyond partial, thin, or passive understandings.</li> <li>• Promotes conceptual change.</li> </ul>	
Engagement of Students in Asking Effective Questions	<ul style="list-style-type: none"> <li>• Increases intentional and active student engagement.</li> <li>• Promotes autonomy and independence.</li> <li>• Develops students' perceptions of themselves as producers of knowledge and generators of important lines of inquiry.</li> <li>• Gives students confidence to work through difficulties themselves.</li> </ul>	

## **How Will I Recognize the Formative Assessment Process When I See It?**

Because formative assessment is a systematic and intentional process of gathering evidence of learning, you can observe its effects in the classroom. These effects include what the teacher does, what the students do, what the products and performances look like, and how teachers talk about their students' learning. Figure 1.4 shows some examples of what you can look for inside the classroom. In upcoming chapters we share more “look fors” as we examine the specific elements of the formative assessment process.

## **How Can I Model the Formative Assessment Process in Conversations with Teachers About Their Own Professional Learning?**

The formative assessment process constantly uses evidence to guide teaching and learning. When school leaders enter into collaborative inquiry with teachers, they not only model the formative assessment process, they embody it. Research on professional development tells us that when principals engage in periodic, short, focused, individual conversations with a teacher, they advance professional learning and produce positive change in teacher behavior in ways that far surpass the effects of the traditional “sit and get” workshops (Hall & Hord, 2000). In fact, one of the most strategic actions school leaders can take to bring about increased student achievement is to center their efforts directly on the inner workings of the classroom (Elmore, 2000).

School leaders can use formative discussions with teachers to promote “systematic and intentional inquiry” (Moss, 2000; Moss & McCown, 2007) into their classroom practices. Formative assessment operates at the nexus of what teachers believe to be true about teaching and learning, how those beliefs shape the ways teachers choose to teach, and the effects of instructional decisions on student achievement and motivation to learn. Each element of the formative assessment process helps educators assess what they are doing in their classrooms, why they are doing it, and how their choices are affecting their students. And because the formative assessment process requires teachers to use information



**FIGURE 1.4**  
**Recognizing the Formative Assessment Process**

**Formative Assessment:** An active and intentional learning process that partners the teacher and the students to continuously and systematically gather evidence of learning with the express goal of improving student achievement.

Teacher "Look Fors"	Student "Look Fors"
<p>Teachers . . .</p> <ul style="list-style-type: none"> <li>• Share learning goals in developmentally appropriate ways.</li> <li>• Adjust their teaching on the fly to deepen student understanding and clear up misconceptions.</li> <li>• Plan the questions they will ask throughout the lesson to help students focus on salient aspects of important concepts and the criteria for a successful performance.</li> <li>• Teach specific metacognitive strategies to maximize student success.</li> <li>• Provide feedback that is clear, descriptive, and task specific, and show students where they are in relation to the goal and what they should do next to close the gap.</li> <li>• Greet student questions with respect and enthusiasm and respond in thoughtful ways.</li> <li>• Use provocative questions to prompt student reflection on their understanding and performance.</li> <li>• Model self-assessment using the kinds of reasoning skills that students will use to succeed at the task at hand.</li> <li>• Describe student learning along a continuum of progress toward a specific learning goal, noting plans for adjusting instruction and levels of support to promote student growth.</li> </ul>	<p>Students . . .</p> <ul style="list-style-type: none"> <li>• Understand and can explain what they do well and exactly what they should do next.</li> <li>• Recognize when they are learning and when they are not.</li> <li>• Use teacher-made rubrics, checklists, and guides to monitor and adjust the quality of their learning performance.</li> <li>• Can adapt their learning strategies to meet their learning needs.</li> <li>• Set their own learning goals and monitor their progress.</li> <li>• Can assess their own work or performance in relation to the criteria for success.</li> <li>• Set realistic short-term goals for where they want to be, the strategy they will use to get there, and the criteria they will apply to determine they have succeeded.</li> <li>• Ask questions that seek clarity concerning concepts, tasks, and reasoning processes.</li> <li>• Appear confident, engaged, and motivated to learn.</li> <li>• Describe their learning in terms of where they are in relation to the learning goal and what they intend to do next to keep making progress.</li> </ul>

about student learning to guide and promote student achievement, it helps their instructional decisions become increasingly intentional and scientifically based. The ability of formative assessment to promote and sustain active teacher inquiry that is both systematic and intentional is exactly why it can have a significant effect on daily classroom practices. Simply put, formative assessment situates powerful professional learning in the heartbeat of the classroom and encourages educators to approach their teaching as “intentional learning” (Moss, 2001).

As schools become places of collaborative inquiry, school leaders can use formative discussions to take a collegial rather than a supervisory perspective on professional learning, focus on each teacher’s unique expertise and professional learning needs, and promote teacher collaboration to improve instruction (Glickman, Gordon, & Ross-Gordon, 1998). School leaders can use well-chosen starter statements that encourage shared inquiry. These starter statements situate the interaction as a formative conversation, center it on professional self-analysis of patterns of practice rather than ramifications of particular incidents, and keep the dialogue free from judgment or evaluation. The statements signal that the teacher is in charge of his or her own professional learning and indicate interest and support. These formative conversations can preview or follow a scheduled classroom visit with a single teacher. In addition, they can serve or launch collaborative inquiry among individuals in a small group or an entire school.

**Strategic conversation starters** signal that teachers are in charge of their own professional learning and indicate your interest and support. Here are some examples of how to begin a formative conversation with an individual teacher:

- *I know you pride yourself on reaching and teaching all students. I’d like to spend some time thinking with you about ways to collect strong evidence that students are achieving.*
- *I wanted to catch up and talk with you more about strategies you are using to increase student goal setting and self-assessment.*
- *The last time we talked you were concerned that your students were not skilled at regulating their own learning and you planned to use rubrics to help them become more competent in that area. Talk with me a bit about your students’ self-regulation progress.*

Here are some examples of how you might begin a formative conversation with a group:

- *We are acutely aware of the need for our students to improve their reading abilities. Think with me about strategies we can all commit to using and monitoring that will increase the quality of reading for understanding across grade levels and the curriculum. In our conversations, let's be sure that these strategies meet the criteria for formative assessment.*
- *During my classroom walk-throughs this week, I want to focus on the ways we are integrating formative assessment into our daily classroom practice. Think with me about a focus question that would guide the walk-throughs and our lesson planning for the week.*
- *It looks like we are making great progress in our efforts to provide effective feedback to our students. Let's keep that focus in the mix as we discuss how we can continuously and systematically improve the quality of our student feedback by sharing the feedback strategies that work best for each of us and the evidence that we gather to increase our confidence in these strategies.*

Notice that all of the examples open with an invitation to the teachers to think with you. The examples begin a conversation about teaching rather than signal an interrogation. Interrogating can trigger unwanted emotional baggage, derail collaborative inquiry efforts, be interpreted as confrontational, and signal that a grilling is waiting in the wings (Downey, Steffy, English, Frase, & Poston, 2004).

## What If?

Given the realities of schools and schooling, there is a good chance teachers are already dealing with a variety of initiatives to improve teaching and learning and may be confused about how formative assessment is distinguished from other forms of assessment or data gathering. *What if you overhear a conversation among a group of teachers about how they feel benchmark assessments are the same as formative assessment?*

The first point to use to address this misconception is that benchmark assessments are interim assessments—they take place periodically, and although

they are important for gauging student learning relative to content standards at a particular point in time, they do not inform teachers and students minute by minute during the learning process. Formative assessment, on the other hand, is a learning process and a learning partnership. Formative assessment provides students and teachers with the information needed to adjust teaching and learning while they are happening. And although benchmark assessments can tell teachers where students are in relation to the benchmark, the formative assessment process helps both teachers *and* students gauge student understanding all along the way.

Second, focus the teachers' attention on how the information from benchmark assessments is used compared with how formative assessment informs learning in real time—day to day and minute by minute in the classroom. Do benchmark assessments inform the learning for *current* students with the current learning target?

And, perhaps most important, help teachers see that benchmark assessments do not involve students in the assessment process. During formative assessment, students are intentionally involved as active self-assessors, goal-setters, and goal-getters. They need to be gathering information about their own learning process and progress. Formative assessment informs learning—it puts students in the driver's seat.

### **Reflecting on the Essential Elements of the Formative Assessment Process**

Formative assessment is an intentional learning process that involves teachers and their students in an active partnership focused on improving achievement and generating motivation to learn. As you reflect on the kind of learning environment formative assessment will help teachers in your school create for and with their students, consider the following questions:

- Do both teachers and students intentionally focus on gathering evidence to inform student learning, or are teachers in charge of assessment efforts focused on auditing learning?
- Does everyone in the classroom share responsibility for learning, or is the teacher responsible for saying what has been learned, who has learned it, and what needs to be learned next?

- Are there classrooms where teachers and their students partner in the formative assessment process day to day and minute by minute? Are there classrooms where teachers are using one or two formative assessment strategies in stand-alone ways? Are there classrooms with little evidence of formative assessment? How can you encourage teachers to work together, share their thinking, and view each other as valuable resources as they individually and collectively work to improve the quality of the formative assessment process in their classrooms?

## Summing It Up

The formative assessment process is lightning in a bottle! It costs nothing. You can help teachers put it to work for every age and grade level in every subject during each minute of every school day. This powerful learning process enhances the learning of those who are already excelling, jump-starts and sustains learners who are smoldering with potential, and increases student achievement for all students. What's more, formative assessment raises teacher quality and forges learning partnerships between students and teachers that make a huge difference in what happens every day and every minute in the classroom.

One word of encouragement and caution: Even lightning in a bottle takes time to impact the culture of a school. The formative assessment process, like any other reframing of what happens in classrooms, will take time to grow and develop. Keep in mind that it is a learning process for all learners in the school—the students, the teachers, and the administration. The good news is that when a school commits to creating learning opportunities like the ones we discuss in the remainder of the book, good things begin to happen immediately and multiply quickly. (Chapter 8 explores taking formative assessment schoolwide in greater detail.)

In the chapters that follow, we explore the six elements of the formative assessment process. Each chapter includes specific and practical strategies to help you give teachers both the research base and the how-to information that they will need to implement formative assessment in their own classrooms to increase student achievement and motivation to learn.



# 2

## **LEVELING THE PLAYING FIELD: Sharing Learning Targets and Criteria for Success**



The first step in formative assessment is being clear about learning goals. Actually, the first step in any kind of assessment is being clear about what it is that you want to know about. You may have heard this expressed as “identify outcomes” or in some other terminology used in your state or district. Simply put, if assessment is looking for evidence of something, you have to know what that something is.

For an external assessor, identifying outcomes is enough. For the classroom teacher, however, being clear about learning goals requires more than just identifying outcomes. For formative assessment, teachers not only must be clear about what they want students to learn (the lesson objective or intended outcome for students who “get it”); they also must know typical student steps and missteps toward this goal (the typical learning progression). This knowledge is necessary because what the teacher is looking for in formative assessment is evidence of where students are on their journey toward mastery of the learning outcome. To interpret student work that is on the way toward mastery, teachers need to be able to recognize typical and not-so-typical progress.

### **What Does It Mean to Share Learning Targets and Criteria for Success?**

Sharing learning targets does not mean merely writing the objective on the board or telling students what the objective is in a sentence or two. Most students will,

of course, be able to repeat back to the teacher what she said the objective was, and that can be somewhat useful. What we mean by sharing learning targets and criteria for success, however, is that students comprehend what those objectives mean. For example, a reading objective might be that students can identify the main idea in passages of a certain type and level. What we want is more than students being able to say “identify main idea.” We want students to understand that they will learn how to get a better grasp on the meaning of what they read, why that should be a goal for them, and what it feels like to do that. For the student, this means both understanding the learning goal and knowing what good work on the assignment looks like. It’s not a goal if the student can’t envision it.

The single most important method for routinely sharing learning targets is using assignments that match—*really* match—the learning goal. It is in the assignment that the teacher translates the learning goal into action for the student. The student will strive to do the assignment, not the abstract goal. When we say an assignment or activity must “embody” the learning goal, we mean that the assignment or activity is such a close match with the goal that the student would be able to think, “If I can do [this assignment], then I can do [the learning objective].”

Teachers should always share their goals for students’ learning—both by telling or writing the goals and by giving assignments and activities that embody them—and then check for students’ understanding. It is not enough to ask students, “Do you understand?” They’ll say yes, of course! Rather, teachers should use strategies that help assess students’ comprehension of the meaning of learning goals and their comprehension of what good work looks like. Teachers should use this information to affirm understanding and clarify misconceptions.

### **How Does Sharing Learning Targets and Criteria for Success Affect Student Learning and Achievement?**

One of the sweet moments in the life of one of the authors illustrates this question’s point. Sue’s adult daughter, newly on her own, asked Sue to make her a collection of the recipes that she had come to know and love (including Sue’s apple pie and pot roast). Of course, it felt good to know that she associated these foods with home and wanted to take them with her to her own new home. But this homey story is a good metaphor for this chapter. Sue’s daughter had a very clear picture of the intended outcome, based on her experiences of that pie and that pot roast over

the years. She would compare her attempts to make these recipes with her sense of what they should taste like. Now, the pot roast was easy enough, but she had to practice several times to get the pie right. The point for this chapter is that if she did not have a concept of what “good” pie was, she would not have been able to shape her pie baking toward it, or at least not as effectively or efficiently.

Academic learning targets, although less concrete, work in a similar way. A vision of the end point makes the journey possible. So, for example, a 4th grade teacher might ask her students to write a book report. Her learning target, however, is not “write a book report.” She wants students to be able to read and comprehend the plot of a chapter book and to be able to make a personal connection with the story. Therefore, she says, “Your book report should be two paragraphs. In the first paragraph, summarize the story so that someone who has not read the book would know what happened. In the second paragraph, tell what your favorite part of the story was, and why.”

In so doing, this teacher has given clear directions. She has also made a start at sharing the learning target. All the students in her class may well understand what they are supposed to do. However, we can almost guarantee that there will be many different visions of what constitutes a good, clear summary of a book and an engaging description of one’s favorite part.

What would help students envision the target more clearly? Showing students some good examples and having them discuss why they were good examples would help. Showing students examples of various quality levels and having them use comparison and contrast to order them and explain why some are better than others would be an even stronger strategy. Using rubrics with specific descriptions could help with either of these processes and would be a good default strategy if no examples were available.

Now the students are ready to start their book reports with a clear target in mind. They may use those rubrics and examples again, during their work, to self-assess. We will have more to say about student self-assessment in Chapter 5.

### **What Common Misconceptions Might Teachers Hold About Sharing Learning Targets and Criteria for Success?**

Teachers are likely to hold at least two common misconceptions about sharing learning targets.



**Misconception #1: Informing the students of the learning target by telling them what it is or by writing it on the board is sufficient.** This is probably the most common misconception teachers might hold about sharing learning targets. Years ago, in a district where one of us taught, teachers were required to write their objectives on the board, and supervisors would observe to make sure the teachers did so. The assumption behind this practice is that writing the objective on the board puts the objective inside the students' heads. This is not a good assumption. Having students be able to recall or recite the objective is necessary but not sufficient for their understanding it.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Most “lesson objectives” are written in language for teachers.
- Discussion about what a lesson objective means can help students express the objective in their own words and clarify the concept in their own minds.
- Students will understand best what a goal really means when they can see examples of good work.

**Misconception #2: Sharing a rubric with students will ensure they understand the criteria for success.** Sharing a rubric with students is a good start, but as with the objective, you need to check for student understanding of what the criteria mean. Some criteria are easy to understand—for example, “use at least three sources of information”—but things you can count are not always at the heart of a learning goal. Some criteria require the students to have more abstract, but arguably more important, concepts. Using the context of writing, for example, a rubric for “voice” might say, “Conveys a sense of the person behind the words.” Reading that phrase does not mean students will necessarily recognize writing that conveys a sense of the person behind the words when they see it. Some students will need to be taught how to distinguish writing that does this well and less well.

School leaders who observe teachers writing the objective on the board without any discussion or follow-up with students might want to talk with those teachers to determine if they, in fact, believe this is a sufficient method for sharing learning targets. Similarly, school leaders who observe teachers passing out rubrics and moving on with the assumption that students can use them might likewise talk with those teachers.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Rubrics are a good starting point because they organize the criteria for students into levels of description about various aspects of the work.
- You can find out how students comprehend what the descriptive levels of a rubric mean by asking them to state them in their own words.
- Students can learn to more precisely identify levels of quality when they see them by looking at examples of work.
- Students who can identify quality levels in sample papers are better at self-assessment and at producing desired levels of work themselves.

### **What Is the Motivation Connection?**

Students who have clear pictures of the learning target and of the criteria for success are likely to also have a sense of what they can and should do to make their work measure up to those criteria and that goal. Clear learning targets direct both teachers *and students* toward specific goals. Students can meet goals only if they are actually working toward them, and they can't work toward them until they understand what they are.

Once students understand where they are headed, they are more likely to feel that they can be successful, can actually reach the goal. Students' belief that they can be successful at a particular task or assignment is called self-efficacy (Bandura, 1997). Students who have self-efficacy are more likely to persist in their work and especially more likely to persist in the face of challenge (Pajares, 1996).

When students feel that they understand the criteria by which their work will be judged, they also have some sense of control over their work and are poised to be strategic self-regulators. If I, the student author, understand that a good story needs a sense of voice that engages readers and makes them feel like I am a real person communicating with them, and if I (or someone else) read my story and find it flat and wooden, then I know I have work to do—and, more important, I know *what* work I have to do. That student decision (“My story lacks a vibrant voice, and I should revise it for that reason”) is an example of self-regulation.

Notice that it takes both an understanding of the learning target (what “voice” is in writing) and an understanding of the criteria for success (recognizing writing with effective use of voice when we see it) to foster self-efficacy and self-regulation. If students understand the learning target but don’t know what qualities will get them there, they are likely to feel discouraged.

## **What Are Specific Strategies I Can Share with Teachers?**

Teachers can help students understand learning targets by the same means they use to help students understand anything: telling, showing, or discovering. “Telling” methods were popular for a while. The classic in this category is for teachers to write their lesson objectives on the board. This method is certainly better than not mentioning the learning target, which makes it a guessing game (“I wonder why we’re doing this?”). But, as noted earlier, a problem with this method is that lesson objectives are often expressed in teacher language—for example, “The student will be able to do three-digit subtraction with borrowing.” True sharing of learning targets involves getting students to comprehend what the learning target entails. As we have already said, many students, having read this objective on the board, could repeat it back but not tell you much about what it meant.

In this book, we concentrate on ways to share learning targets and criteria for success by showing this information to students or by having students discover this information for themselves. Directed student conversation can be a powerful way for students to develop comprehension of their learning target. Strategies that put information in written form enable teachers and students to review and refer to it. Both oral and written strategies are ways to get what’s inside a student’s head out into public space so that others can hear it or read it and respond. Figure 2.1 summarizes the strategies that we discuss in the following sections.

### **Questioning**

Questioning, along with directed conversation, is one strategy for communicating learning targets. The strategy can be simple or elaborate, depending on the particular students and content. Sometimes all that is needed is that a teacher ask students what questions they have about an assignment.

**FIGURE 2.1**  
**Strategies for Sharing Learning Targets and Criteria for Success**

General Strategy	Specific Tactics	Examples
Questioning	• Teachers check for understanding by asking for student questions or by asking students to put learning goals in their own words.	<i>Kevin, can you tell me one thing about the water cycle you already know? . . . Jacob, can you tell me one other thing about the water cycle? . . . Jaden, can you put those two things together so we have a definition of the water cycle?</i>
	• Teachers use directed discussion or warm-up questions.	<i>Why is it important to know about the water cycle?</i> <i>What would a good report on the water cycle look like?</i>
	• Students think-pair-share what they think they will be learning, why it's important, and how it relates to previous learning.	<i>Donna, what do you think of Matthew's idea about the way to do a picture of the water cycle?</i> <i>How long would the report have to be to show you really understood the whole water cycle?</i>
Planning and Envisioning	• Students list what they know and want to know.	<i>Groups working on water cycle reports plan a week of work, including library research, reading, writing, drawing, editing, and planning a presentation.</i>
	• Students make planning charts for individual or group work.	<i>Students use these planning charts to keep track of progress. The teacher uses these <u>planning charts</u> for interim assessment of student progress and for asking questions about what students learn along the way.</i> <i>The teacher asks for interim assessments as checkpoints along the way—for example, a list of sources after library day, an outline as the report is planned, a draft as the report is written, a list of students' roles for an oral presentation.</i>

**FIGURE 2.1**

**Strategies for Sharing Learning Targets and Criteria for Success (cont.)**

General Strategy	Specific Tactics	Examples
<b>Using Examples</b>	<ul style="list-style-type: none"> <li>Students look at good examples and make a list of what makes them good.</li> </ul>	<p><i>Here are the five best water cycle reports from last year. What do you notice about them?</i></p> <p><i>Can you organize these things you notice into categories?</i></p>
	<ul style="list-style-type: none"> <li>Students look at a range of examples, sort them into <u>quality levels</u>, and write descriptions of the levels that turn into draft rubrics.</li> </ul>	<p><i>Put these water cycle reports into three piles: Good, OK, and Not Good.</i></p> <p><i>What makes the Good ones good? How are the OK reports different from the Good ones? From the Not Good ones?</i></p>
<b>Using Rubrics</b>	<ul style="list-style-type: none"> <li>Students use teacher-made rubrics to assess examples.</li> </ul>	<p><i>Here are some water cycle reports from last year. Discuss with your group how you would evaluate them using this rubric, and why.</i></p>
	<ul style="list-style-type: none"> <li>Students rephrase teacher-made rubrics into their own words.</li> </ul>	<p><i>Here is the rubric we will use for your water cycle reports. How would you describe these qualities to another student?</i></p>
	<ul style="list-style-type: none"> <li>Students use rubrics to assess their own work and revise.</li> </ul>	<p><i>How do you think your water cycle report measures up on this rubric? Use a highlighter to show the descriptions in the rubric that you think describe your work. Is there anything you want to revise?</i></p>

Listening to these questions can provide the teacher with some information about what the students think they are to do and what they are to learn.

A variation on simple questioning as a strategy to communicate the learning target is for the teacher to describe a lesson's target and an assignment or activity that embodies it and then to ask students to repeat what she said in their own words. Putting something in one's own words is a classic comprehension activity. In so doing, students will show how they are understanding what the teacher is asking them to do.

A slightly more complex version of this questioning strategy is to use a think-pair-share activity. The teacher can have pairs of students (1) explain what they think they are going to learn, in their own words, (2) explain why they think it is important, and (3) figure out at least one previous lesson topic this goal is related to. In whole-class discussion, the pairs share and discuss their answers and come to a class consensus for the three questions (*What are you going to learn? Why is it important? What previous lesson topic is this goal related to?*). The purpose of the third question is to explicitly help students see that they are building knowledge and skill and to activate relevant prior knowledge that they can then use as they work.

Sato and Atkin (2006/2007) report on a version of this activity that they call "warm-up questions." The teacher prepares warm-up questions that review the previous lesson or preview the coming lesson. As students respond, the teacher asks students to comment on their peers' ideas and clarify or extend them. This directed discussion brings students' ideas about the learning target out into the open, where they can be examined and focused until everyone is clear on what the upcoming lesson is going to be about. An important feature of this strategy is that the teacher should discuss with students what high-quality responses to these questions would sound like. Students will not immediately be good "clarifiers and extenders." This skill needs to be developed.

When teachers use questioning as a strategy for clarifying a learning target, they should ask students about their attitudes and experiences as well as their knowledge. Teachers can ask students to describe what prior school or other experiences and what attitudes and feelings come to mind, as appropriate to the topic. They can assess students' responses for relevance and then use the

information for adjusting instruction. For example, many elementary school students study recycling as a community activity or as part of a science unit. It would be useful to know which students come from homes where recycling is an important activity, what they do at home to recycle, and why their parents have told them they are doing it.

### Planning and Envisioning

For some learning targets, having students envision what they know and what they will know (or do) can be a good way to give them a picture of what their learning will be about. The *K* and *W* columns (“know” and “want to know”) of a KWL chart are classic examples of this strategy for clarifying learning targets.

For younger students, teachers can use actual pictures that are images for “what we will do” or “what we will need” (for example, a crystal ball might represent what they think an assignment will be about, and a tool box might represent the supplies they think they will need). Dictated or student-written words can be added to the pictures in appropriate places. Colored pictures can be used as cover sheets for folders of work, as appropriate.

For older students doing project work, planning charts for individual or group work can help clarify the learning target. Students must identify what needs to be done before they can plan how to do it. Such planning charts help more with the logistical aspects of the work than with understanding concepts, but they can be important steps along the way.

### Using Examples

Giving students examples of work to review and describe helps them discover and develop conceptions of the learning target and criteria for good work by induction. If possible, teachers can use real examples from previous years from anonymous students. If no real examples from previous students are available, teachers can construct examples to illustrate the range of possible performance. If a teacher is using a rubric, it should include at least one example per level; two is better at the common levels of performance. For learning targets involving higher-order thinking, the teacher should try to have these represent levels of quality rather than quantity, so students will have to explain characteristics of the

work rather than just say things like “You wanted three sources, and this paper only has two.”

For some learning targets, a good source of anonymous examples that range in quality from excellent to poor is the National Assessment of Educational Progress released items, available at <http://nces.ed.gov/nationsreportcard/itmrls/>. Use the Questions Tool to bring up released items and examples of student work. Be sure to select “constructed response” (that is, not multiple-choice items) so there will be student work associated with the writing prompts, math problems, or social studies and science questions.

Students can discuss the qualities of the examples and arrive at a description of what good work looks like. If the teacher gave students a rubric, students can come to consensus on where each example would fall on the rubric, and why.

If the teacher has not given students a rubric, students can sort the examples into piles, come up with a description of each pile, and thus develop their own draft rubrics. For example, students can sort examples of work into “Good,” “OK,” and “Not Good” piles and then describe the characteristics of each. Teachers can use the student-generated rubrics as is or edit them as necessary. Even 1st graders can create rubrics in this way. Research suggests young children’s first attempts at rubrics might give neatness and appearance too much weight and substance too little weight (Higgins, Harris, & Kuehn, 1994), but even this can make a teachable moment.

One of us met a teacher in Nebraska who had used the strategy of providing examples and “created a monster,” as she said with a smile. Each year, her middle school science students created a notebook about the material they were studying. She decided to save some of the good science notebooks to use as examples, with student permission, of course. She found her students were eager to have her use their work as good examples. However, by her third year of using this strategy, she found that each year the notebooks were better than the year before. Students would look at the examples, figure out what the previous students had done, and go one better. The notebooks developed to be not only longer but also more substantive, because using examples made it easy for students to envision what could be done.

Sharing only good examples helps students envision a target. Sharing a range of examples, from good to poor, allows students to develop a conceptual understanding of the criteria. In the Nebraska example, if the teacher had shown



students some mediocre and poor notebooks, too, the students would have had more opportunity to discuss the criteria. However, identifying a student's work as "not a good example" is something some teachers are reluctant to do, for the sake of the student. For a range of examples, it is best to use examples from anonymous sources or teacher-created examples.

### **Using Rubrics**

The strategy of using examples often involves rubrics—either ones the teacher has provided or ones the students generate from the examples. Even if examples are not available, however, rubrics can help clarify learning targets in students' minds and help them understand the criteria for success. In some cases, student translations of teacher rubrics into what is sometimes called "kid-friendly" language can be helpful as well.

Teachers can also use rubrics to clarify learning targets through opportunities for revision, if appropriate. Students can review their own work against rubrics, decide what needs to be revised for improvement, and then do that before they turn in the work. Alternatively, the teacher can allow "not acceptable" papers or projects to be redone, although it is usually better for students to revise work before they turn it in for a grade. That makes them, and not the teacher, the arbiters of their revisions. Some teachers have students do peer review and revision. We advise that even if teachers incorporate peer review into their students' work time, they also allow for self-assessment. Peers can make helpful suggestions, but it is the students' own decisions about their work that lead to learning.

### **How Will I Recognize Effective Sharing of Learning Targets and Criteria for Success When I See It?**

First, ask students. Probably the most accurate marker of classrooms where learning targets and criteria are shared effectively is that students can explain, when asked, what it is that they are supposed to do, and why.

Second, observe teachers. Look for evidence that the strategies described in the preceding sections—questioning, planning and envisioning, using examples, and using rubrics—are being not only used but used well. In particular, look for the following:

- Are students asked to put the learning targets (or lesson objectives) in their own words?
- Are students asked to talk about their ideas and previous experiences related to learning targets?
- Does the teacher listen to student visions of their work, and, more important, does the teacher use that information in some way?
- Are students encouraged to plan their work, and do they have opportunities to implement those plans?
- Do students have an opportunity to review and respond to examples of work?
- Does the teacher use rubrics formatively—that is, to shape work, not just to grade it?

Learning to recognize the ways that teachers and students share learning targets requires systematic observation based on a clear understanding of the many effective ways this sharing can happen. Such observation can also help you uncover areas for professional growth that can guide your conversations with teachers about the critical importance of sharing learning targets and the criteria for success. The exercise presented here—a shared learning targets case study—is a three-tiered process for gathering sound evidence through a classroom walk-through (see Figure 2.2), a lesson plan/assignment walk-through (see Figure 2.3), and a student outcome walk-through (see Figure 2.4), followed by documentation of conclusions and determination of goals and strategies (see Figure 2.5). The exercise will help you document the ways teachers are clearly communicating the learning target and criteria for success and how students are using that information to learn how to learn—to become confident and competent self-regulated learners. Although the case study format is designed to assist a classroom walk-through, you can also use it to guide a more comprehensive formal classroom observation.

### **How Can I Model Effective Sharing of Learning Targets and Criteria for Success in Conversations with Teachers About Their Own Professional Learning?**

Teachers should have the same clarity about your goals for them as you expect them to have about their goals for students. Often teachers are given professional

**FIGURE 2.2**
**Tier 1: Classroom Walk-Through for Sharing Learning Targets**

Document the ways the teacher communicates learning targets and the criteria for success/elements of quality with students. You can use notes to expand on your observations.			
The teacher used the following communication modes to share the learning targets and criteria for success/elements of quality:			
<input type="checkbox"/> Oral	<input type="checkbox"/> Written	<input type="checkbox"/> Displays	<input type="checkbox"/> Demonstrations/ modeling
The teacher used the following formats to share the learning targets and the criteria for success:			
<input type="checkbox"/> Rubric	<input type="checkbox"/> Contract	<input type="checkbox"/> Checklist of expectations and requirements	<input type="checkbox"/> Anchor papers, models, or other exemplars of quality
When did the teacher communicate the learning targets and the criteria for success?			
<input type="checkbox"/> Before instruction	<input type="checkbox"/> During instruction/ongoing	<input type="checkbox"/> At the conclusion of instruction	
How did the teacher help the students to understand the learning targets and the criteria for success/ elements of quality?			
<input type="checkbox"/> Conducted discussion and review	<input type="checkbox"/> Discussed criteria, rubrics, checklists	<input type="checkbox"/> Showed student work, mod- eled responses, examined ex- emplars or anchors of quality	
<input type="checkbox"/> Helped students apply the criteria to their own work or to a model	<input type="checkbox"/> Involved students in generating criteria/elements of quality	<input type="checkbox"/> Provided feedback to students that focused on the learning target and the criteria for success	
In what ways did the teacher engage the students in applying the criteria for success/elements of quality?			
<input type="checkbox"/> Helped students compare their work to anchors or exemplars	<input type="checkbox"/> Helped students identify anchors or models based on the criteria	<input type="checkbox"/> Used rubrics, check- lists, or other tools to assist in assess- ments of quality	<input type="checkbox"/> Helped students develop criteria for success/elements of quality
In what ways did the teacher engage the students in developing/identifying criteria for success and/or elements of quality?			
<input type="checkbox"/> Brainstormed/discussed criteria	<input type="checkbox"/> Discussed elements of quality directly related to the learning target and performance task/product requirements	<input type="checkbox"/> Discussed elements of a quality answer, paper, response, A work	

**FIGURE 2.3**

**Tier 2: Classroom Walk-Through for Lesson Plans and Learning Activities on Sharing Learning Targets**

Use the continuums to plot the evidence from the design elements of the lesson plan(s) showing the teacher takes a systematic and intentional approach to communicating learning targets and criteria for success/elements of quality with students.

**Clearly Defined Learning Targets**

The plan's learning targets represent activities rather than learning outcomes and cannot be assessed.

The plan's learning targets define observable and measurable outcomes and can be assessed.

**Alignment of Assessment Plans**

The plan's assessment strategies are not aligned with the learning targets. Or the plan does not contain assessment strategies that will provide evidence of the effects on student learning.

The plan's assessment strategies are aligned with the learning targets and will provide strong evidence of the effects on student learning.

**Learning Activities**

The planned learning experiences are not related to the learning targets.

The planned learning experiences are strongly tied to the learning targets and help students build capacity to close the gap between where they are and where they need to go.

**Feedback That Feeds Forward**

The plan provides no opportunities for students to receive feedback that feeds them forward as they learn how to regulate their performance to reach the criteria for success/elements of quality.

The plan provides for feedback during the learning experiences that helps students regulate their performance to meet the criteria for success/elements of quality.

**Student Engagement**

The plan provides no opportunities for students to examine the learning targets and the criteria for success/elements of quality by reviewing and responding to examples of work.

The plan provides opportunities for students to actively examine the learning targets and the criteria for success/elements of quality by reviewing and responding to examples of work in order to plan their work and implement their plans.

**FIGURE 2.4**

**Tier 3: Classroom Walk-Through for Student Outcomes on Sharing Learning Targets**

**Document the student outcomes that provide strong evidence that the teacher communicates the learning targets and the criteria for success/elements of quality with students.**

Ask three students the following question: *What are you learning in this lesson?* Then check all that apply:

- ☐ Students describe what they are doing rather than what they are learning.  
Examples: *We are writing papers. We are working problems. We are finishing our projects.*
- ☐ Students describe what they are learning in general terms.  
Examples: *We are learning about weather. We are learning math. We are learning about dogs.*
- ☐ Students provide a clear and accurate description of what they are learning.  
Examples: *We are learning to write a topic sentence. We are learning the functions of the circulatory system.*

Ask three students the following questions: *Are you doing well (or doing a good job) on this task? How do you know?* Then check all that apply:

- ☐ Students cannot describe the criteria for success/elements of quality.  
Examples: *I don't know. I will know when I see my grade. I will ask the teacher for help.*
- ☐ Students describe a general strategy for assessing the quality of their work.  
Examples: *I will do a good job if I follow directions; answer all the questions; do my best.*
- ☐ Students describe specific strategies for assessing the quality of their work.  
Examples: *I use the steps in the chart. I refer to the rubric. I look at the examples of good work. I use the checklist. I try to make mine like the model the teacher gave us.*

**Examine student products connected to the lesson. Then check all that apply:**

- ☐ The lesson will not result in student products that can be assessed for learning progress toward the learning target.
- ☐ The students will produce work that has minimal to no connection to the learning targets.
- ☐ The students will produce work that provides strong evidence of their progress toward the learning target.
- ☐ Students will have the opportunity to incorporate feedback or use tools (rubrics, checklists, etc.) to refine and revise their work in order to meet the criteria for success/elements of quality connected to the learning target.

**Examine the homework assignment connected to the lesson. Then check all that apply:**

- ☐ Homework assignments are strongly connected to the learning targets.
- ☐ Homework assignments are paired with a way for students to judge the quality of their work.
- ☐ Homework assignments will help students close the gap between where they are in relation to the learning target.

Ask the teacher the following question: *In this lesson, how do you share the learning targets and criteria for success/elements of quality with your students?* Record the response.

**FIGURE 2.5**

**Conclusions and Goal Setting for Learning Targets Case Study**

1. Based on the evidence you gathered through the three-tiered Learning Targets Walk-Through, what are your conclusions regarding the quality, consistency, and effect of the ways the teacher shares the learning targets and success criteria in order to inform student learning and increase student achievement?

2. Based on your conclusions above, what are three specific goals that you have for this teacher?

Goal 1:

Goal 2:

Goal 3:

3. Given the professional goals above, state three specific strategies you can share to help the teacher become more effective at sharing learning targets and the criteria for success.

Strategy 1:

Strategy 2:

Strategy 3:

development expectations without a clear idea of what it is they should “develop.” We also know that professional learning goals for teachers can be more or less thoughtful. One of us once did some work in a high school that required teachers to submit professional development goals and plans at the beginning of the year. One teacher wrote “be more professional” as his goal, and as evidence, he was going to count the number of days he wore a tie to school. Sadly, this really happened.

The first tip for learning targets for teacher professional development is to base them on individual teachers’ needs—or better, to arrive at mutually agreed-upon

professional development goals based on your observations, the teacher's reflections, and joint conversation about the goals. If a goal is partly the result of teacher self-assessment, all those motivational benefits about feelings of control and being the agent of one's own destiny will kick in.

Communicate with the teacher not only what you think the professional development goal should be but also what evidence makes that an important goal. One of the questioning strategies we described earlier is a good one to use. Simply asking the teacher to describe what it is she wants to improve, in her own words, and what she plans to do about it will go a long way in most cases to making sure that the teacher understands the goal and that the teacher knows you know she understands the goal.

Following right along, let the teacher know what you will interpret as evidence that the goal has been met and what criteria you will use. It would be even better if the evidence and criteria could be arrived at jointly, in conversation. Remember that conversation is a means by which the thinking in one person's head can be brought to light so that others can reflect and comment. Conversation in this sense is a real give and take, not a grilling or a lecture. Conversation is also the means by which people indicate their understanding of whatever they are talking about. So talking about evidence and criteria with the teacher may actually serve as a means to clarify ideas for both you and the teacher.

## What If?

Communicating learning targets involves teachers and students. Teachers must have a clear conception of the target, send clear messages about it, and provide clear opportunities for students to develop the concept. Like teachers, students have to be able to understand and work with the concept behind the learning target. *What if you ask a student to explain the learning target he is working toward and the student can't come up with an answer?*

First, gather additional evidence. Is it one student who cannot express a clear concept of the learning target, or are many students in the same boat? Does the teacher know that this student doesn't understand, or does she assume he does? In short, try to determine if the issue is that the teacher needs to take a differentiated approach with one or a few students, or if the lack of understanding represents

something more wide-ranging. If it's one or a few students, talk with the teacher about strategies for individualizing learning.

If many students cannot say what the learning target is, gather some additional evidence and do some triangulation. Look at three different sources. What do the teacher's lesson plans say the learning target is? When asked, what does the teacher say it is? What do the lesson activities and assignments imply that it is? If these three do not agree, there's the problem: there is no clear learning target. Start there with the teacher, focusing on how to develop good learning targets (Gronlund & Brookhart, 2009). Talk with the teacher about the importance of coherence in planning, instruction, and assessment. Sometimes that is all it takes. For example, a teacher may have grabbed a worksheet that looked like a match—maybe it was about the same topic, for example, butterflies—without analyzing the work required to make sure it dealt with the same specific concepts or required the same thinking skills. Sometimes teachers need practice at analyzing what really is required of students in an activity or assignment, and you can work on that.

And finally, sometimes the three sources of information do agree, but they describe activities, not learning targets. For example, the teacher may say, "We're doing posters about Canada," without having a clear sense beyond that. Of course, then the students would probably have said, "We're making posters," instead of being able to state the learning goal. Is the goal to learn facts about Canada? To understand the relationship between the United States and Canada? To understand interdependencies among two countries in North America? Something else? In that case, explore with the teacher how activities and assignments should be instances that embody the learning target, selected from a group of possible activities and assignments in service of the same knowledge or skill. In our experience, you will run into this issue a lot. Many teachers use activities as a shorthand for learning goals, which unfortunately will have the effect of limiting learning.

### **Reflecting on Sharing Learning Targets and Criteria for Success**

There is no more foundational activity for a school leader than making sure that there are clear learning targets aligned to whatever standards are in place in the



school or district, that teachers understand them and teach to them, and that students understand them and reach for them. Reflect on these questions for your school or district:

- Are there classrooms where students understand their goals particularly well? Conversely, are there classrooms where activities just seem to happen to get “done”? What are the differences in how students work and how they behave in those two types of classrooms?
- Do some teachers struggle with the concept of a “learning goal”? With the idea of an activity or assignment tapping into that learning goal in a deep way? For those teachers, what is the level of their own content knowledge and of their knowledge of typical student learning progressions for that topic?
- Do you observe a range of student behavior in the classrooms in your school? Is there any relationship between the number and type of behavior problems in a class and the clarity of student understanding and teacher communication of learning goals?

## Summing It Up

In this chapter, we have talked about the foundation of formative (and summative, too, for that matter) assessment—clear communication of learning targets and clear understanding of the criteria for success. In fact, it is this characteristic—that they are both based on the same learning goals—that relates formative and summative assessment in education. We have discussed strategies teachers might use to share learning targets and criteria with their students. After that point in most lesson sequences, the students get busy and do some work. In Chapter 3, then, we turn to ways to give feedback to students on that work so that their learning can continue to progress.



# 3

## SHIFTING FROM CORRECTING TO INFORMING: Feedback That Feeds Forward



Educators have been studying feedback for almost 100 years.

The first studies and theories about feedback grew out of the psychological perspective called behaviorism. Positive feedback was “reinforcement,” and negative feedback was “punishment.” As the heyday of behaviorism waned, researchers tried to understand more about why feedback worked. Several reviewers found little support for the behaviorist notion that feedback was simple reinforcement but definite support for the idea that correcting errors was an important way in which feedback worked (Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Kluger & DeNisi, 1996; Kulhavy, 1977).

We now know that error correction is an important feedback function but not the only one. More recently, studies and theories about feedback have found a place in cognitive psychology, especially in the notion that feedback helps students with self-regulation of learning (Butler & Winne, 1995) by helping them understand the learning goal, how close their current work comes to it, and what should be done next (Hattie & Timperley, 2007). Of course, you recognize these as the three components of the formative assessment cycle.

### What Is Feedback?

Feedback, in the sense we are using it here, is a teacher’s response to student work with the intention of furthering learning. Feedback can be written or oral, or it

can be a demonstration. Teachers can give feedback about many different things, but in this book we focus on teacher feedback to students on their academic work: classroom activities and assignments, written work, homework, tests, projects, and so on. We focus on feedback to students about this work that can be part of the formative assessment cycle—that is, it is based on the criteria from specific learning goals, descriptive of where the student’s work falls in this regard, and suggestive of ways to improve or learn more.

In the language of the self-regulation theorists, feedback is “external regulation”—external to the learner. Feedback from a teacher becomes part of the information students use for “internal regulation” and learning. Thus no matter how good a teacher’s feedback is, it doesn’t guarantee that students learn. However, feedback creates opportunities for students to grow by giving them insights about their work that they might not be able to come up with on their own.

Effective feedback is a teacher’s response to student work using the criteria for good work that were part of the learning target. Effective feedback observes where the work did a good job of meeting the criteria and where it did not. Effective feedback suggests ways the student could go about understanding the reasons for these observations, building on strengths and improving weaknesses.

## **How Does Feedback Affect Student Learning and Achievement?**

Effective feedback affects student learning in two ways. First, information from clear, descriptive feedback supports achievement. As the students better understand where they are in relation to the learning target and take the next steps, their work improves. Feedback supports cognition because it helps students realize which knowledge and skills are strong and which are weak. More subtly, feedback can help move students from misconceptions to clearer understanding through targeted explanation of particular points and suggestions about what (or how) to study or practice next. Feedback also supports metacognition—students’ awareness about their own thinking and their use of this self-awareness to regulate their thinking. Feedback shows students their work from an outsider’s point of view. Effective feedback shows students how to look at their work using criteria from the assignment and thus, by modeling, helps teach them self-assessment skills.

Second, information from clear, descriptive feedback supports motivation. Students who see that improvement is something they can control—because they understand what to do next—are motivated to take those steps. Feelings of competence and autonomy are powerful motivators to productive action for all of us (Ryan & Deci, 2000), and especially for students. We say “especially for students” because many school assignments put students in the position of being told what to do. Effective feedback that helps *them* decide what to do can feel particularly liberating.

### **What Common Misconceptions Might Teachers Hold About Feedback?**

Teachers typically hold at least two common misconceptions about feedback.

#### **Misconception #1: Returning graded work is providing effective feedback.**

Some teachers view feedback as grading or marking (as expressed in the comment “I marked and returned their papers”). It is true that knowledge of results, sometimes called “outcome feedback,” is a basic kind of feedback. With this kind of feedback, however, many students are more interested in how many questions they “got right” than in understanding the reasons behind their performance. Successful students may try to figure out why certain answers were wrong or why they got a certain grade—but successful students usually get good grades and few wrong answers. The effective feedback we discuss in this book is not grading.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Some students will look seriously at the feedback on graded work, but many will just look at the grade.
- In the typical classroom sequence of learning activities, by the time a graded assignment is due to be turned in, the optimum time for feedback has passed. It is too late.
- Students experience grading as evaluation and judgment. To be most effective, feedback must be experienced as information and description.

**Misconception #2: Detailed correction is effective feedback.** Did you ever have an English teacher whose feedback on your essay looked like copyediting?

All the spelling, punctuation, and usage errors were corrected, and all you had to do to have a “perfect” paper was recopy the essay using your teacher’s corrections. In math, problems that are corrected without explanation—so the student knows what the answers are but not why—have the same effect on students. In any subject, feedback that supplies the “right” answer for students instead of inviting them into some learning process that will help them understand the work is not effective.

**Strategic talking points** school leaders can use to address this misconception include the following:

- When a teacher “fixes” all mistakes or copyedits written work, the student does not get an opportunity to figure anything out.
- Students can revise work according to teacher corrections without actually understanding why the corrected versions are better.
- Effective feedback describes types of strengths and deficiencies in work and suggests strategies the student might use to take next steps.

## **What Is the Motivation Connection?**

As described in the overview in Chapter 1, effective feedback enhances students’ cognitive processing, increases students’ autonomy, fosters resiliency and persistence, and provides students with specific strategies for next steps in their learning. Here is a simple example. Instead of inserting a period on a student’s paper, a teacher might ask, “Where does this sentence end?” This question tells the student what needs to be figured out next and implies the student can do it. That may be all the student needs. Or if not, a next question could be “What punctuation mark goes at the end of that sentence?” The principles for good feedback are easy to see in a simple example, and they generalize to more complex work.

Feedback enhances cognitive processing by providing needed information. For example, feedback may inform a successful 5th grade student that his teacher knows he included many details in his paragraph comparing and contrasting two characters in a story. Feedback may inform an unsuccessful 5th grade student that she did not report facts from the story accurately. Knowing these things will help both students in their next comparison/contrast assignment.

Feedback provides students with specific strategies for next steps in their learning. Once students understand the next steps, they are more likely to take them. Knowledge is power, as the saying goes. For example, the teacher may suggest that the unsuccessful student reread the story and use underlining as a strategy for identifying details and reporting them accurately. If the student knows how to underline, she might think, “Oh, I could do that.”

Feedback increases students’ autonomy and persistence in their work by giving them the evidence they need to believe that they are, in fact, competent—and where they are not yet competent, giving them the means to become so. The successful 5th grader in our example, after reading his teacher’s comments, knows that his use of detail is serving him well. This will make him more likely to repeat that kind of performance in the future. Even the unsuccessful student, who may take a while to develop into a successful reader and writer, will have more direction next time because she is now armed with some suggestions (check facts, reread, underline details) that give her somewhere to start. The next assignment may seem like an easier task for this student, one that she may feel will work out better for her, than it would have been if the teacher had simply disapproved of the work and not provided that feedback.

## **What Are Specific Strategies I Can Share with Teachers?**

Teachers have various choices about the methods they use when they deliver feedback and about the content of that feedback.

### **Methods of Feedback**

The choices about methods relate to the following areas:

- Timing—when given; how often
- Amount—how many points are made; how much about each point
- Mode—oral; written; visual/demonstration
- Audience—individual; group/class

**Timing.** Students should get feedback while they are still mindful of the learning target and while there is still time for them to act on it. Feedback should be given as soon as possible for right/wrong questions and as soon as feasible for

more complex products like papers or projects. Feedback can also be given after cumulative observations. For example, if many or most of the math problems a student turns in contain careless errors, it would be worthwhile for the teacher to say something such as this: "George, I see you read right over this question. I have noticed you doing that on previous papers, too. What can you do to slow down your reading and make sure you do your work completely?"

**Amount.** The right amount of feedback to give is different for different students and assignments. The idea is for students to get enough feedback that they have a sense of the teacher's response to the work against the assignment's criteria and enough feedback so that they know what to do next. The right amount of feedback for one student might overwhelm another. A teacher should select a couple of main points for comment and then take stock. Is that enough? Is there more that should be said to this student? For example, if a teacher has been working all week with a student on careful work habits and the student turns in a carefully done paper, the teacher should tell her she noticed.

Comments should be made on at least as many strengths as weaknesses. Teachers should make sure to comment on "teachable moment" points, too. Even for unsuccessful students, the teacher should name and notice at least one good thing the student did.

**Mode.** The most appropriate feedback may be written or oral, or even a demonstration. It depends on the learning target, the assignment, and the age and verbal abilities of the student. Oral feedback works best for very young students or for students who are not apt to read what is written, or if the teacher has so much to say that the effect of seeing it in writing would be overwhelming.

On the other hand, written feedback is more permanent than oral feedback. Students can keep it and refer to it as they do their work. Written feedback works well for students who can use it as they revise essays, papers, or projects. Written feedback can be inserted at specific points in written work, in margins, using arrows or underlining, and so on, so the student knows where the comments apply. For these reasons, it makes sense for teachers to use written feedback as often as possible and *also* to use oral feedback. Even students who read well will respond to good feedback delivered orally as a teacher walks around while students work in class, for example.

For some things, demonstration is the best mode. Physical skills, of course, cry out for demonstration—for example, for young children learning to hold a pencil or tie shoes or music students learning how to hold an instrument. Demonstration in the form of modeling is a good way to “show” a student how to exercise cognitive skills. For example, if a student’s writing would benefit from more vivid vocabulary, a teacher could say, “Use more vivid details.” Or she could demonstrate: “Instead of just saying the boy fell off his bicycle, it might sound more interesting if you added details. How about, ‘The boy clutched the handlebars helplessly as he lost his balance and fell from his bicycle to the hard street below’?”

**Audience.** Feedback can be delivered to one, some, or many students. Specific, personal critiques should be delivered to individual students. Individual feedback has the additional value of communicating that the teacher read and responded to the student’s work. If feedback feels “just for me,” it can communicate that the teacher values that student’s learning and cares about her progress, as well as communicating the content of the feedback words. Individual feedback should start with comments about what the student did well and then give comments about what needs improvement.

Whole-group feedback that is really aimed at only a few students is usually ineffective. It turns off the students who know they don’t need it, confuses the students who aren’t sure whether they need it or not, and may be ignored by the students the teacher intends to reach. But there are times when all members of a group need to hear the same thing. This often amounts to a minilesson that reteaches some concept to a small group of students pulled together because they have a common learning need, as in a flex group.

### **Content of Feedback**

Teachers also have choices about the content of the feedback they give. These choices relate to the following areas:

- Focus—the work itself; the process the student used; the student personally
- Function—description; evaluation/judgment



- Comparison—with criteria for good work, *criterion-referenced*; with the work of other students, *norm-referenced*; with the student's own past performance, *self-referenced*
- Valence—positive; negative
- Clarity—clear to the student; unclear to the student
- Specificity—nitpicky; just right; overly general
- Tone—implications; what the student will “hear”

**Focus.** Feedback needs to be a message *about* something. What should a teacher focus on? First, the teacher should describe the work the student did in terms of the criteria the student was expected to meet. If the criteria were captured in a rubric that the teacher shared with students, the teacher should use the rubric's categories for feedback. For example, “Nice job” isn't very descriptive, and it isn't focused on particular criteria. On the other hand, “This project is nicely organized according to Galileo's scientific contributions” describes the project according to one of its criteria (organization), tells the student the teacher believes the criterion was well met, and tells the student why (it was clear that the structure of the project was built around Galileo's scientific contributions, as opposed to chronologically or other ways the project could have been organized). It is all right to comment “Good work!” if the comment goes on to say why the work was good.

If possible, teachers should talk about both the quality of the work and the process they observed (or can infer) that the student used to do the work. In some subjects, processes are more visible and more a part of lessons than others, but all subjects involve processes. For example, reading teachers typically teach reading strategies (sounding out words, using context clues, and so on). Mathematics teachers typically teach algorithms and methods for different types of problems. In these cases, commenting on the process is fairly obvious.

Work in all subjects requires a process of some sort, however. To return to our Galileo project example, suppose the feedback had gone on to say that some of Galileo's achievements were more clearly described than others. In addition to describing what specific achievements the teacher was referring to, her feedback could include some comments about the process of finding information. Especially helpful would be feedback suggesting additional information-finding procedures

that the student could have used, or suggestions that help develop self-regulation, like taking stock to see whether additional information was needed at various points during the work.

**Function.** Feedback can be descriptive or evaluative, thereby making students feel enlightened or judged. A teacher should aim for descriptive feedback that students will perceive as information to help them with their work and avoid evaluative feedback that students will perceive as judgmental or bossy.

This can be easier said than done. A teacher's choice of comments is a big part of whether feedback is descriptive or not. For example, "There is only one event in this story" seems descriptive. "Not good enough!" seems judgmental. But in the end, it is the student's perception of the feedback that makes it descriptive or evaluative. Fragile students sometimes hear descriptive feedback as a judgment ("I'm stupid") even when that was not what the teacher said. For those students, it is especially important for the teacher to communicate every achievement, however small, so they begin to see themselves as people who *can* do something.

**Comparison.** Descriptions of work need some sort of basis or comparison. Feedback can compare work with criteria (called *criterion-referenced* feedback), with the work of other students (*norm-referenced* feedback), or with the student's own past performance or expectations for current performance (*self-referenced* feedback).

Criterion-referenced feedback, using as criteria the qualities of good work that were part of the learning target, is usually best for learning. For example, "The contour lines on your topographical map are not all in the right places" is criterion-referenced feedback. "Your topographical map is not as good as most of the other kids' maps" is norm-referenced feedback.

Self-referenced feedback can help all students as they progress toward developmental (long-term) learning targets such as developing writing or research skills. Pointing out what students did well and how this compares with the last time the teacher observed them use the same skill can help students set goals, build on strengths, and work on weaknesses.

For fragile students, self-referenced feedback can be a way to point out progress even when the work itself is not very good. For example, suppose a student wrote a very poor report on the stars, but at least she used one source and had some accurate information. Suppose further that her previous report on the planets

had been mostly made up from things she had heard in class. Instead of a teacher describing how the poor report on stars didn't meet the criteria she had set, her feedback could focus on the aspects of this report that she noted as improvements over the last one. A teacher's noticing and naming accomplishments can be valuable as affirmations for students who do not believe they can do much in school. The criteria come into play—the comments are about aspects of the work such as use of sources and accuracy of information—but the focus is on the student's improvement. This kind of feedback helps students see the connection between their effort and their achievement. It gives the teacher the opportunity to affirm any progress, however small, and suggest next steps.

Norm-referenced feedback is almost never helpful for learning. Comparing students with one another sets up a competitive classroom atmosphere where "getting it right" and outdoing one's classmates are more important than understanding concepts or developing skills. Comparing students with one another encourages students to hide misunderstandings so they won't be found wanting, and in so doing they also miss opportunities to clear up those misunderstandings in class. Comparing students with one another also encourages students to believe that intelligence is innate rather than learned, and students who don't believe they can learn won't learn much.

**Valence.** Feedback comments should be positive, not negative. Positive comments include affirmations noticing and naming good qualities in a student's work. Positive comments also include descriptions of places where the work needs improvement coupled with suggestions for how to do that, sometimes called "constructive criticism." Negative comments, simply describing the bad qualities of a student's work without offering any assistance, are not effective. If the student had known how to do better, he probably would have.

We should add one caution. A teacher should not give in to the temptation to tell a student that work is good simply because she doesn't have the heart to tell him it's not. That may be easier in the short term, but it's a disaster in the long run. The teacher should just make sure she doesn't criticize any aspect of poor work without giving specific, forward-looking help in the very next breath.

**Clarity.** Feedback needs to be clear *to the student*. This may sound obvious, but it's important to consider what the student will understand. If the student didn't

understand something the way the teacher explained it in class, simply repeating those words on the student's paper will not lead to improvement. If the teacher is not sure whether a student understands some feedback, she should check—and not by simply saying “Do you understand?” (because the student will say yes). She should really check. For example, the teacher could ask the student to tell in his own words what he will do next.

**Specificity.** Feedback should be specific enough to be helpful, but not so specific that the work is done for the student. Remember our example of written papers where the teacher copyedited everything? Not good. Sometimes using examples is an effective way to make feedback specific for a student.

**Tone.** The way a teacher addresses a student communicates a lot. Brusque, order-giving comments (“Do this! Do that!”) convey that the teacher thinks a student should be ordered around. Sometimes well-meaning teachers who are pressed for time write feedback that sounds like orders even when that’s not what they intended.

The teacher should aim for feedback that personalizes the students and positions them as the agent of their own learning. Feedback should imply that the person being addressed is a decision-making, autonomous being who is actively involved in figuring out how to learn. This really is a case of “you get what you wish for.” When teachers treat students as if they are agents of their own learning, in most cases they will respond in kind. For example, if a student did a skimpy report on the electoral college, a teacher could say, “This needs to be longer.” That certainly communicates what needs to be done. But it also communicates “Your report needs to be longer because I said so.” If instead the teacher said, “After I read this, I wanted to know more. What could you add?” she sends the message that the report needs to be longer. But she also sends the message that it is the student’s decisions that will make that happen and asks the student a question that will begin that process.

### **The Metaphor of Nutritional Value**

Borrowing the concept of nutritional value provides an apt and vivid metaphor to focus teacher attention on the characteristics of high-quality feedback. For feedback to feed forward, it must have nutritional value. Food that is fresh and full

of nutrients, prepared in a way that is healthy and inviting, served in a proportion that is appropriate, and provided as part of a balanced diet has a great deal of nutritional value. Effective feedback shares these characteristics. As we have already discussed, it must, among other things, be timely, appropriate, descriptive, and an integral part of the formative assessment process.

Ask teachers to think about the nutritional value in one serving of their feedback. Does it meet student learning needs in ways that feed the student forward? Using a checklist or chart like the one in Figure 3.1 can help teachers not only see how feedback strategies work together but also understand what we mean when we talk about using high-quality feedback to effectively feed the learning forward.

### How Will I Recognize Effective Feedback When I See It?

We have just discussed the qualities of effective feedback. One way to recognize it, then, is to look for those qualities in teacher feedback. Look for feedback that is

- Timely.
- Not too much or too little, making at least one observation about a strength of the work.

**FIGURE 3.1**

**What Is the Nutritional Value of One Serving of Your Feedback?**

<b>Feedback Nutrition Facts</b>	
Serving Size: Feedback on one performance	
<b>Amount:</b> Just right	
<b>Rate how well the feedback...</b>	
	<b>% of Nutritional Value</b>
Compared the student's work with the learning target:	
Described what the student did well:	
Suggested a specific strategy for next steps:	
Arrived as soon as possible after the performance:	
Matched the student's developmental level:	

- Written, oral, or demonstrated, as appropriate to the students and the work.
- Individualized or group-directed, as appropriate to the students and the work.
- Focused on the work and the process the student used to do the work.
- Descriptive.
- Criterion-referenced (or, as appropriate, self-referenced).
- Positive.
- Clear.
- Specific.
- Supportive in tone.

Another way to recognize high-quality feedback is to look for its effects in the classroom. In classes where feedback is prominent,

- “Mistakes” are viewed as opportunities for learning.
  - Students are not afraid to ask for help as needed.
  - Assignments build on strengths and practice to overcome weaknesses.
- Feedback that students can’t use because there is no further opportunity is not effective.
- Student self-efficacy is high.
  - Students become better at appraising their own work.

Students learn from the models they have seen in their teacher’s effective feedback to them. They learn self-assessment skills as they reproduce what their teachers have modeled, and they learn the value of review and revision and reshaping of work for improvement. “Getting it done” becomes less of a motivator than “figuring it out.”

### **How Can I Model Effective Feedback in Conversations with Teachers About Their Own Professional Learning?**

Your own feedback to teachers should follow the principles about strategies and content we have just described. Describe to teachers what you see in their practice. Identify their strengths. Even if you think a teacher knows what her strengths are,

it is nice to have one's supervisor notice and name them. Then the teacher not only knows her strengths but also knows that you know. Here are some examples of ways to begin a conversation about feedback:

- *I know you return work to students in a timely manner, and I appreciate the amount of effort that takes. Let's look at some of the comments you make on student work and see if we can figure out a way for you to write less but be more effective.*
- *Next time we look together at one of your lessons, let's look at the whole cycle. Let's look at how your lesson plans, classroom activities and assignments, and feedback you gave tie together to advance your learning objectives.*
- *You have said that one of your main goals for students this year is for them to become more independent learners. Let's see how your feedback supports that goal.*
- *As you think about the fact that teacher feedback models for students how you want them to look at their work, what do you think are the most effective elements of your feedback? What parts of your feedback provide the most support for student growth?*

Feedback conversations about teachers' professional learning should in most cases be private, individual conversations. When weaknesses are identified, they should be treated as opportunities for development. The tone of the conversation should suggest to teachers that you believe they value improvement and are able to do it. Never identify a weakness without providing suggestions for what to do about it. If you, personally, do not have strategies to offer beyond what the teacher already has used, you can at least offer resources to help the teacher's development.

Finally, remember that your conversations are just that—conversations. Listen to a teacher's response to your feedback. If she is defensive, then she experienced your feedback as evaluation rather than description. Examine what you said and check to make sure it wasn't intended that way, and rephrase.

And this leads to our last point. Although supervisors, of course, should give feedback at the time of evaluations, these are primarily summative events. Teachers should receive formative feedback often, in situations not tied to evaluations, and while there is still time to improve before an evaluation.

## **What If?**

Effective written feedback helps students learn. It's a genre of writing that may take time for teachers to develop, however. *What if you receive a call from a parent who says her child is receiving negative or insufficient feedback on assignments?*

First—and in keeping with the principles of good feedback—note what is positive about the call. Thank the parent for her interest and close attention to the work the student is taking home. Then ask what the specific concerns are.

Second, talk with the teacher. What was she trying to have the student accomplish—what was the learning target? Look at the work in question. Did the feedback match the learning target? Did it suggest at least one positive next step? Why does the parent think the feedback is negative or insufficient? It could be that the parent is looking for the kind of feedback she received in school—for example, expecting every usage error to be marked in red and interpreting no mark on a misspelled word to mean that the teacher didn't know or didn't care. You might suggest to the teacher that she schedule a meeting with the parent, and the student if appropriate, to discuss the work. A teacher-parent conference puts the communication where it needs to be and prevents a parental “end run” around the teacher.

If you notice that the feedback was, in fact, not of high quality in the sense that this chapter has described, you can also talk with the teacher about developing skills at providing effective feedback. The resources in this chapter, and others, can help you (Brookhart, 2008). As with any professional development, the best strategies are collaborative and inquiry-driven. You may be able to identify another teacher who can coach the teacher in improving feedback skills.

## **Reflecting on Feedback That Feeds Forward**

Many teachers will say that “grading” takes up a lot of their time, and by that they may mean looking at student work whether it counts in the final grade or not. Encouraging teachers to give better feedback will be successful if you can demonstrate that less is more, that effective feedback really doesn't mean writing volumes, and that in the long run it will save time because it will help students improve their own learning. Reflect on the quality of feedback that you see in your school by asking these questions:



- Are there many instances of feedback on ungraded practice work? Or is most of the feedback that you see really an explanation of where students “lost points” in a grade?
- Can you identify classrooms in your school where the teacher uses feedback effectively, probably in conjunction with other formative assessment practices, in ways that she would be willing to share with colleagues? A demonstration of how targeted feedback supports learning and saves time in the long run might be helpful to other teachers.
- Are you leading by example? Do you give feedback to your teachers in ways that model the principles laid out in this chapter?

## Summing It Up

In this chapter we have discussed feedback that does more than correct students’ errors and instead informs their progress. Providing effective feedback is one of the most powerful things teachers can do to move students along in the learning process. The next chapter discusses student goal setting, one of the most powerful things *students* can do to move along in the learning process.



# 4

## **ACHIEVING MORE WITH FOCUS: Fostering Student Goal Setting**



**It's no secret that** students learn best when they are actively and intentionally engaged in their own learning. But classrooms full of actively engaged students don't just happen. They are created when teachers intentionally work to develop self-regulated learners who set their own goals, select effective strategies to reach those goals, and monitor and adjust what they do depending on the demands of the task and their own strengths and needs.

Although we recognize the enormous advantage that self-regulated learners enjoy in any learning situation, the reality is that few teachers use their day-to-day and minute-by-minute work in the classroom to help students learn how to learn. In too many classrooms, students are making poor decisions about what they should do, do next, or stop doing in order to improve. As a result, many students lack both the skill and the will to harness the workings of their own minds in order to succeed.

This chapter examines goal setting, a critical element of the formative assessment process, and explores ways that school leaders can encourage teachers to value and include skill development in goal setting as an integral part of their classroom practice. We also explore how goal setting can encourage teacher professional development and create a culture of collaborative inquiry in the school.

## What Is Goal Setting?

“Would you tell me, please, which way I ought to go from here?” asked Alice.

“That depends a great deal on where you want to get to,” said the Cheshire Cat.

—Lewis Carroll, *Alice in Wonderland*

Goal setting is a critical element of the formative assessment process, a process guided by three core questions: *Where am I going? Where am I now? What strategy or strategies will help me get to where I need to go?* When students set a goal and then create and monitor a realistic plan to achieve it, they are engaged in their own learning in real and relevant ways.

A goal is what the student is trying to learn or achieve—an outcome or accomplishment. Achieving that goal in a realistic and strategic way is aided by goal setting, a cognitive process that effectively energizes a student to become more productive (Locke & Latham, 2002). Goal setting and goal achievement influence learning and generate motivation to learn in two important ways: first, by providing a learning target that students can see and understand; and second, by helping students gather information about how they are doing in pursuit of that target.

## How Does Goal Setting Affect Student Learning and Achievement?

High-achieving students know what is important to learn and how to learn it. They tend to self-regulate more automatically than low-achieving students because they have “learned how to learn.” These students set goals and then monitor their progress toward them. They assess the effectiveness of the strategies they chose for a particular learning task and then adjust the strategies accordingly to increase their probability of success. In fact, students who have internalized these important principles of learning—those who set goals and monitor their self-efficacy in this way—boost their achievement potential by as much as 30 percent (Zimmerman, 1998).

The formative assessment process boosts student achievement through its consistent and continuous focus on helping students learn how to learn. It weaves student goal setting into the day-to-day, minute-by-minute fabric of classroom life

and strengthens the learning partnership between students and their teacher. By encouraging goal setting, formative assessment engages teachers in thinking about what the important concepts are and guides them as they make split-second decisions about how to best teach those concepts, mindful of what their students currently know and understand. And goal setting helps students focus on the important parts of the learning task as they make decisions about what to pay attention to, how to monitor their thinking, which strategy to select, and how to direct their effort in order to succeed. Goal setting helps everyone in the classroom learn how to learn.

In particular, goal setting helps students learn how to learn in four main ways (Locke & Latham, 1990):

1. *Goals focus student attention on the learning task and the learning target.* Students who set goals tied to the learning target focus on what is important and essential to success and are less likely to be pulled off course.
2. *Goals stimulate appropriate student effort.* Students learn to judge the degree and type of effort they will need to accomplish their goals, expending more effort to reach a more challenging goal.
3. *Goals increase student persistence.* With a clear and realistic goal in mind, students are more likely to attempt a challenging task, and should they fall short, they are more likely to choose a more effective strategy and try again.
4. *Goals increase a student's desire and capacity to learn new strategies.* Students who monitor their progress toward their goals look for and try new strategies that will help them more effectively reach their goals.

These four main influences have their greatest effect on student achievement when teachers help students set goals that are “just right” in terms of specificity, challenge, and probability for success (Pintrich & Schunk, 2002; Stipek, 2002). To promote student achievement, goal setting must be part of the daily life of the classroom, taught across the content areas, and continuously refined.

### **What Common Misconceptions Might Teachers Hold About Goal Setting?**

There are three common misconceptions about goal setting that could dilute the quality of the formative assessment process. School leaders should use strategic

talking points to counteract these misunderstandings and communicate accurate information about goal setting from the start.

**Misconception #1: It is important that students have goals that inspire them to achieve more.** Teachers commonly confuse a general, distant goal or personal wish with the kind of strategic goal setting that is integral to the formative assessment process. Or they conclude that any reasonable academic goal will do. Although it is inspiring for students to imagine their preferred futures (e.g., *I will grow up to play for the Steelers; I will work hard, save my money, and pay my own way on the field trip; I will get good grades so that my parents will buy me a puppy*), this is not the type of goal setting to which we refer. The power of the goals students learn to set during formative assessment derives from the goals being specifically focused on the learning task before the students and promoting inquiry into how the students can learn more effectively.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Effective goal setting is a continuous process of learning how to learn.
- Effective goals are precise, detailed, and linked to the current classroom task, not to general academic aims.

**Misconception #2: Goal setting is a planned event to help students prepare for the next unit, report period, or part of the school year.** Teachers often think of goal setting as a periodic event rather than a continuous part of the learning process. They mistakenly view goal setting as something teachers and students do at the beginning of a school year, unit, or report card period, a time set aside to help students describe their aspirations for the weeks or months to come (e.g., *I will spend more time on my homework this nine weeks; I will raise my grade in English composition by setting aside more time to edit my work; I will come to class prepared to learn because I will read the chapters in the book and answer the end-of-chapter questions*). Although these general academic aims can inspire, they will not have the effect on student learning that comes from continuously setting detailed goals linked to the gap between precise learning targets and the student's current level of performance.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Goal setting is an ongoing and continuous part of the formative assessment process.
- Teachers and their students use the goal-setting process to constantly inform their learning decisions in the classroom.

**Misconception #3: Goal setting is a study skill.** Many teachers see goal setting as a study skill rather than an integral part of the learning process in the classroom. To meet the criteria of formative assessment, goal setting must be a consistent part of how students learn, part of their ongoing efforts to gather information about their learning; and it should inform and be informed by their current skill and understanding relative to the task at hand. What is particularly dangerous about viewing goal setting as a study skill is that many middle school and high school teachers assume it is not their job to teach study skills as part of what they do in their classrooms, arguing that their focus should be on helping their students learn important course content.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Goal setting is a learning process that helps students learn how to learn during the day-to-day, minute-by-minute work of the classroom.
- Students of all ages and in all grades learn more effectively and construct conceptual understandings in more meaningful ways when they take ownership of their learning through the goal-setting process.

### **What Is the Motivation Connection?**

Goal setting generates motivation to learn by focusing students' attention on the gap between where they are and where they are heading. Knowing the distance between where you are and where you want to be and *can* be is a fundamental motivational principle (Locke & Latham, 2002). The three main phases of goal setting—setting the goal, selecting the strategy, and assessing performance—keep students “metacognitively, motivationally, and actively . . . engaged in their own learning process” (Zimmerman, 2001, p. 5). Simply put, goal setting keeps learners motivated to learn. And although a just-right goal can foster motivation to learn,

being able to set a goal that is spot-on in terms of challenge, timing, and specificity is not a skill students acquire at birth. Goal setting must be taught and, like any skill set, requires scaffolding and opportunities for guided practice. Keeping this in mind, let's walk through the three main phases of goal setting, noting how the essential elements of the formative assessment process are critical to student success and how teachers work in partnership with their students to share information and gather crucial evidence.

### Phase 1: Setting the Goal

During the first phase, *setting the goal*, students learn to describe a specific short-term learning goal that is just right in terms of challenge and attainment. Without a clear understanding of the learning target and the criteria for success, however, setting a goal that's accurate can be overwhelming for students. If students cannot distinguish the bite-sized chunks within a learning target, they will be unable to recognize logical and realistic steps they can take to ensure success. Helping students learn to set a goal that is just right requires much more than merely helping them state what they intend to do and how they will do it. A just-right short-term goal must be the logical next step students should take to close the gap between where they are and where they need to be. Determining that goal means students must make realistic estimates of their capacity to reach it. For example, let's consider a lesson focused on describing the characteristics of the planets. The first and perhaps most important step a teacher can take to encourage just-right goal setting is to help students identify the specific characteristics of the planets they should master. In our example, the characteristics could be the following: the distance of each planet from the sun, the relative size of the planets in relation to the size of the Earth, the characteristics of the "inner planets" versus the "outer planets," how long in Earth time it takes for each planet to revolve around the sun, and how long in Earth time it takes for each planet to rotate on its axis. Armed with this clear understanding of exactly what the teacher means by "characteristics," students can begin to gauge what they already know and what they need to learn. This act of realistically judging one's own ability (e.g., *I already know lots of things about the planets; I can already name the major planets and their distance from the sun*) and setting a goal to match it promotes self-efficacy.

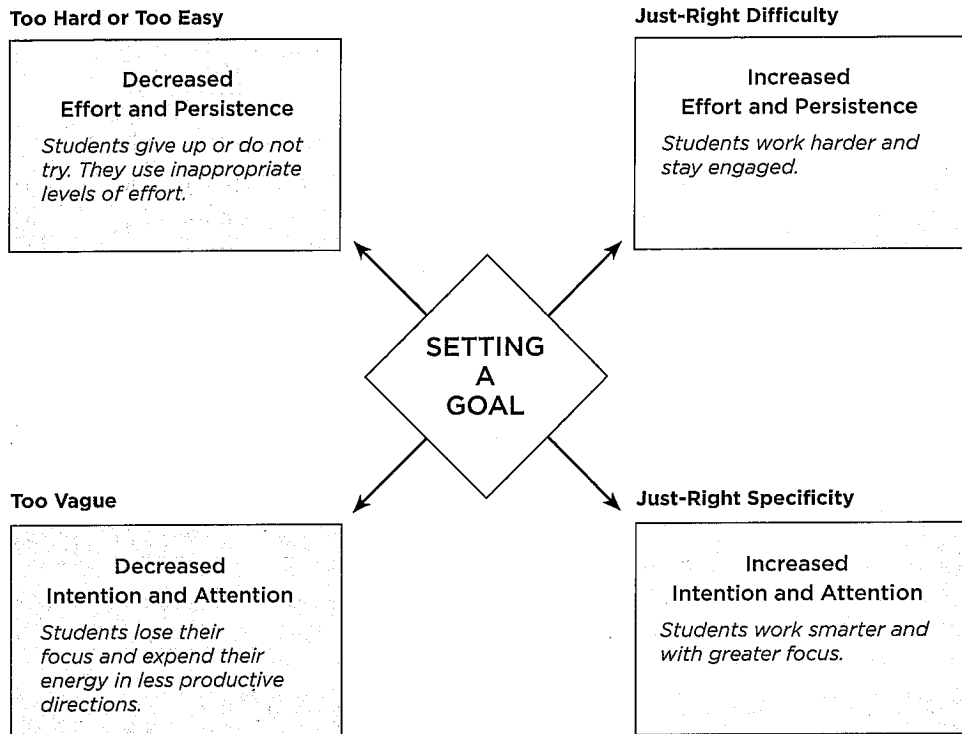
What's more, just-right goals are neither too challenging nor too easily accomplished and are based on a clear understanding of the level of challenge, the time frame, and the learning sequence. They are a perfect fit because they describe accomplishments that are just slightly ahead of what a student can do now and aim at destinations the student can reach in the near future (Bandura & Cervone, 1986; Locke, 2002). In fact, specific and reasonably difficult goals lead to better performance than general "do your best" goals because they stimulate effort and help students to regulate their own actions. That is why the first phase, *setting the goal*, must involve students in examining the specific bite-sized chunks that make up the goal, the time frame they have to learn those chunks, and what they will be asked to do or produce at the end of that time frame to demonstrate their learning. It is critical, therefore, that teachers share as much information as possible about the specific learning targets and the criteria for success and provide ample time for students to examine the targets (review the detailed information in Chapter 2). For instance, if students realize that they have a week to learn the order, size, and distance from the sun of the planets and that they will be asked to draw a diagram of the planets at the end of the week, they can set goals for both learning about the planets and succeeding at the assignment—their goals become more specific and time bound.

Armed with specifics, each student has the opportunity to create a sequence of short-term, realistic goals that build on each other (e.g., *I already know Jupiter is the biggest planet, so now I need to learn the relative sizes of the rest of the planets and where they are in relation to the sun. Even though I am not great at drawing, I can use my compass to draw circles to represent the size of each planet in order to create my diagram, making sure each planet is the right size and in the right order from the sun*). And as students work through the week, the teacher provides feedback to feed them forward as they continually hone in on the difference between where they are and where they need to be.

Setting a just-right goal helps students work smarter and stay engaged (see Figure 4.1). It is a way to help students harness the workings of their own minds, set their own course, and monitor their progress toward the goal. And a goal that is on target works as a catalyst, helping students to channel their effort by focusing on what works and using appropriate levels of energy.



**FIGURE 4.1**  
**Just-Right Goals to Promote Student Motivation**



## Phase 2: Selecting the Strategy

After setting a goal, students enter the second phase of goal setting, *selecting a powerful set of strategies*. Armed with a specific and realistic short-term goal to guide them, students use their judgment to choose a strategy or set of strategies with “power”—a strategy they predict will have the most power to help them advance toward their goal (e.g., *I can use the 3-D model of the planets to help me compare their sizes; and in my learning group, I can get help with the idea of outer and inner planets*). And as students are planning and using specific strategies, they are benefitting from feedback and scaffolds as they work together with their teacher and peers.

### Phase 3: Assessing Performance

During their performance, students enter the third phase of the goal-setting process, *self-assessing and self-regulating*, as they monitor and adjust what they are doing. Because they are equipped with a set of strategies carefully designed to help them, students intentionally and actively work to improve their learning (e.g., *I did a good job in my learning group when we quizzed each other on the inner planets because I knew the inner planets were smaller, were made mostly of rock, and had fewer or no moons. I am still not sure about how long it takes for each planet to revolve around the sun, so I need to read that part of the textbook again and make a chart to help me study*). Learning to gauge their progress toward their goal puts students in control of their own learning and means that students learn to attribute their success on the task at hand to things they can control—the set of strategies they choose and the amount and direction of their effort. They learn to gather evidence to assess the effectiveness of the strategies and to adjust their own performance.

### A Continuous Process

Finally, students use the evidence they gathered during their performance to set their next goal accordingly. And the process begins again with a newly designed just-right goal. This continuous process of setting a goal, choosing a strategy, and assessing performance, all focused on improving learning during the task at hand, is what gives formative goal setting its power for increasing student achievement and motivation to learn. And when teachers consistently engage their students in understanding the learning targets and provide them with formative feedback along the way, students have the precise information they need to set specific, time-bound, and realistic short-term goals that are just right.

Clearly, many motivational benefits occur when students are actively and intentionally engaged in making informed learning decisions that help them move toward the learning target. Goal setting empowers students because it not only guides their journey but also helps them recognize and monitor their learning progress along the way. Because students are intimately involved in keeping track of where they are compared with where they want to be, they are better able to understand everyday setbacks as a natural part of learning. A teacher we work with in a school in western Pennsylvania helps her students understand the realities of tackling challenging learning tasks by talking to them about football.

Comparing her students to quarterbacks, she tells them to hang in there even after a setback. She explains that even Ben Roethlisberger, quarterback for the Pittsburgh Steelers, does not always reach the goal line on his first attempt. But like Big Ben, they should assess the distance between where they are and where they want to be in order to decide which strategy they should use next to keep their drive to the goal line alive and moving.

As the examples illustrate, teachers can find many ways to make goal setting a consistent and continuous part of what happens in the classroom. And when teachers help students see everyday connections between setting goals and choosing strategies with the best chance of helping them reach those goals, they maximize the motivational benefits goal setting can have for all students.

## **What Are Specific Strategies I Can Share with Teachers?**

Learning to set goals takes time and practice. Teachers can use three strategies to promote goal setting: (1) using feedback that feeds forward, (2) modeling goal setting, and (3) providing goal-setting guides.

### **Using Feedback That Feeds Forward**

The right kind of feedback (see Chapter 3) makes goal-directed behavior emotionally important for students. Effective feedback helps students judge their current level of performance. When teachers provide information that tells students that they are performing below the learning target, it causes dissatisfaction and negative emotions. On the other hand, information that students are performing at or above the learning target promotes positive emotions. It is critical for teacher feedback to include specific suggestions for what to do next.

By using feedback to feed forward, the teacher can increase learning no matter where the student is in relation to the goal. If the student is performing below goal level, specific suggestions can help the student set a just-right short-term learning goal that generates the motivation not only to work harder but also to tackle the learning task in a more strategic way. And when teacher feedback helps the student to see that he is making progress toward the learning target and provides suggestions for next steps, it encourages the student to set new short-term goals that are more challenging and that promote effort and persistence.

### **Modeling Goal Setting**

When teachers model goal setting and allow students to become goal-setting models for each other, they help each student develop the skill and the will to learn more and learn smarter. Teachers can unpack the goal-setting phases and walk their students through goal setting as a consistent part of how they communicate with their students. Talking about learning in goal-directed language not only models goal setting but also helps to embed goal setting into the very fabric of specific learning tasks. Figure 4.2 summarizes the phases and steps of modeling goal setting and provides some sample language for teachers to use.

### **Providing Goal-Setting Guides**

Goal-setting guides are a good way to help students internalize and visualize how to set goals and regulate their performance in a realistic and strategic way. Teachers can adjust the language to make it appropriate for their students' age and ability. Figures 4.3, 4.4, and 4.5 show several useful formats.

### **How Will I Recognize Goal Setting When I See It?**

To be effective, goal setting must be part of everything that happens in the classroom, so look for evidence that goal setting is a process and not an event. Look for charts or posters that remind students of the importance of having goals or that list and describe goal-setting steps. Look for displays of student goal sheets or charts where students record their progress. Listen for teachers using goal-directed language in their conversations with their class or with individual students. Look and listen for students discussing their goals and their progress toward them with their peers.

Because goal setting is an ongoing process and not an event, you may not be able to observe it directly. However, you should be able to notice the following effects on the teacher:

- Lesson plans reflect intentions to include goal setting within the lesson.
- Assignments follow a logical sequence that scaffolds learners and breaks complex tasks into doable parts.
- Lessons include frequent progress checks for students to gauge their learning.

**FIGURE 4.2****Modeling Goal Setting Through Goal-Directed Language**

Goal-Setting Phases	Specific Steps <i>Help the students . . .</i>	What the Teacher Might Say
<b>1. Set the Goal</b>	• Recognize the learning goal.	<i>This week we will learn about the nine parts of the human eye.</i>
	• Clarify the level of challenge.	<i>We will learn all nine parts, not just some of them.</i>
	• Identify the specific bite-sized chunks that make the goal realistic and achievable and against which students will gauge their progress.	<i>There are many things to learn about the eye, but we are going to concentrate on learning to pronounce the name of each part, locate it, and describe what it does to help us see.</i>
	• Draw their attention to the learning time frame and how at the end of the time frame they will be asked to demonstrate their learning.	<i>On Friday, I will ask you to identify the parts of the eye on a drawing and write a statement about what each part does. This will help you judge where you are in learning the nine parts of the human eye.</i>
<b>2. Select a Powerful Set of Learning Strategies</b>	• Identify and use appropriate information resources.	<i>Let's think about the resources we can use to meet our goal. Our textbook has information and pictures. We can use the 3-D model and books in our class library. Our school library has interactive CD-ROMs, and we can use the Internet to link to Web sites that will help.</i>
	• Pinpoint strategies for meaningful collaborative learning.	<i>We will use class time each day to work in our learning groups. In your groups you can discuss each new part to make sure each person can identify and explain it. You can quiz each other and help each other recognize what you already know and what you need to learn.</i>

**FIGURE 4.2**

**Modeling Goal Setting Through Goal-Directed Language (cont.)**

Goal-Setting Phases	Specific Steps <i>Help the students . . .</i>	What the Teacher Might Say
<b>2. Select a Powerful Set of Learning Strategies</b> <i>(continued)</i>	<ul style="list-style-type: none"> <li>• Prepare to use their time strategically.</li> </ul>	<i>You have four days to learn the parts of the eye. By Wednesday you should know at least four parts, and by Friday you should know them all.</i>
<b>3. Self-Assess and Self-Regulate</b>	<ul style="list-style-type: none"> <li>• Create a plan to assess their learning all along the way.</li> </ul>	<i>Each day you will check where you are by using a checklist to identify the parts you know.</i>
	<ul style="list-style-type: none"> <li>• Ask strategic questions to identify the just-right next step.</li> </ul>	<i>Ask yourself: Where am I now? What should I do next?</i>
	<ul style="list-style-type: none"> <li>• Uncover roadblocks and design specific ways to overcome them.</li> </ul>	<i>What is confusing for you? What roadblocks are in your way? What can you do to overcome those roadblocks?</i>
	<ul style="list-style-type: none"> <li>• Monitor which learning strategies are working well and which should be adjusted or changed (self-regulate).</li> </ul>	<i>Think about the strategy or strategies you have used so far. What is working for you? What isn't? What should you keep on doing? What should you do differently or instead? Talk it over with your learning partner.</i>
<b>4. Set the Next Goal</b>	<ul style="list-style-type: none"> <li>• Envision the next learning goal.</li> </ul>	<i>Now that we can locate and explain the functions of the parts of the eye, we can work toward understanding how to protect our eyes from injury and disease. We will talk more about that on Monday.</i>

**FIGURE 4.3**  
**Sample Goal-Setting Guide**

My Goal
This is my goal:
I will be able to reach my goal because I am good at doing these things:
I need to work on these:
I can count on these people to help me:
This is exactly what I am going to do:
This is how I will check my progress along the way:
This is when I plan to reach my goal:
This goal is important to me for these reasons:

**FIGURE 4.4**  
**Sample Goal-Setting Guide with To-Do List**

My Learning Goal
<i>Directions:</i> Use this goal-setting guide to precisely state an important learning goal that you have for this lesson.
This is my goal:
The goal is important to me for the following reasons:
This to-do list will help me take action to reach my goal: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
My goal is both realistic and challenging for these reasons:
These will be the benefits of reaching my goal:
If I don't reach my goal, I could face these consequences:
These are the people I can count on to help me reach my goal:



**FIGURE 4.5**  
**Goal-Setting Organizer**

My Goal-Setting Organizer: 5 <i>Ws</i> and an <i>H</i>
<b>W</b> hat is my goal?
<b>W</b> here will I work on my goal?
<b>W</b> ho will help me reach my goal?
<b>W</b> hy is this goal important to me?
<b>W</b> hen will I reach my goal?
<b>H</b> ow will I reach my goal using these steps?

- Timelines for learning seem reasonable and practical.
- Students are encouraged to revise and resubmit assignments.

You should also be able to notice that students

- Are better at talking about where they are and where they are headed in relation to the learning task.
- Talk about where they are headed in terms of learning rather than aiming for certain grades.
- Seem more independent and self-assured.
- Revise and refine their work.

## How Can I Model Goal Setting in My Conversations with Teachers About Their Own Professional Learning?

Goal setting is not just a good idea for students. It is also an indicator of teacher quality. You can use goal setting to help make teachers more aware of the strong link between the quality of their teaching and the learning progress that their students make.

Mirroring the importance of helping students learn to set and monitor goals that are directly related to specific classroom learning targets, you should help teachers set goals that are specifically focused on daily student learning (e.g., *I will help my students understand the relationship between asking questions and trying to come up with answers, and the scientific method*) rather than on professional goals (e.g., *I will complete my master's degree in the next two years*).

After observing a lesson, completing a walk-through, or having a discussion with a teacher, you can help the teacher visualize and set a specific goal that is directly related to specific classroom learning targets. The following strategic conversation starters will help move the teacher toward setting specific goals to influence student achievement.

- *Think with me for a minute about where your students are in relation to your specific learning targets, and let's talk about the daily evidence you are using to gauge students' academic achievement in relation to the specific targets.*
- *Let's talk a bit about the kinds of learning evidence you are collecting and what the evidence tells you about the gap between where your students are and where they are headed.*
- *Thinking about what we just discussed and envisioning tomorrow's lessons, let's talk about your specific goals for designing and adjusting your instruction in ways that will close the gap between where your students are performing and what that performance needs to look like in order to hit your learning target. Also, let's brainstorm ways can you provide each student the opportunity to benefit from goal setting.*
- *Now that you have specific goals in mind for your own teaching and strategies for helping your students set goals, let's talk about the kinds of resources that might help you and your students reach your goals.*

Notice that the sequencing of the conversation starters encourages teacher reflection, data-driven decision making, and specific goal setting related to student achievement. It helps teachers think in goal-directed ways about the specific content, learning activities, and reasoning process that will directly influence their students' learning.

## What If?

Many teachers are already using contracts or goal-setting frameworks with their students. *What if you observe a teacher distributing goal sheets to students that give them their goals for the week?*

First, recognize the intention of the teacher to help students see where they are and what they need to do next. Then make clear the distinction between having a goal set for you and setting your own goal. Formative assessment helps students self-regulate and see themselves as competent learners. That means they might struggle with goal setting at first, but they will profit from seeing themselves as being in charge of their own learning.

Second, help the teacher see that goal setting is something effective students do regardless of their age or level of competence with a topic. Many teachers believe that younger students or students with learning challenges cannot set their own goals. Explain that with time to examine and understand the learning target and with scaffolding through effective feedback, the majority of students can learn to set appropriate goals for themselves. Help the teacher think about what scaffolds students would need to be successful and think through the roadblocks they imagine might limit students' success. For instance, help the teacher think about the degree to which students understand the essential parts of the learning target. Introduce the goal-directed language strategy. Talk about the importance of students having exemplars of excellent work before they begin a task.

Teachers must believe that all students are capable of learning to set goals. Helping them examine ways to teach and provide support for goal setting can help even the most fervent naysayers.

## Reflecting on Fostering Student Goal Setting

Although we readily acknowledge the power of goals in our own lives, they remain the single most underestimated and underused means of improving student

learning minute by minute and day to day in the classroom. Helping students learn the value of setting their own goals and regulating their own learning has powerful effects on their present and future achievement. Learning to tap into the power of goal setting helps all students become good students.

As you reflect on goal setting as an essential element in the formative assessment process, consider the following questions:

- Do teachers get the most leverage from the formative assessment process by combining student goal setting and feedback that feeds forward—that is, feedback that provides students with valuable insights into their progress and informs their thinking during goal setting?
- Do teachers provide students with direct instruction on the goal-setting process? Do they take the time to help students understand the learning targets and criteria for success by examining exemplars of excellent work to increase the probability that students will be able to set just-right goals?
- Do you encourage teachers to set and monitor their own professional goals? Do you dedicate time in faculty meetings to talk about the importance of setting and monitoring professional goals for making formative assessment a consistent part of what happens minute by minute and day to day in the classroom?

## **Summing It Up**

Goal setting is a continuous process of learning how to learn. It is guided by clear learning targets and fueled by feedback that feeds forward. Teaching students to set just-right goals helps them know precisely what they want to achieve so they can choose powerful strategies and make informed decisions about how and where to concentrate their learning efforts.

But being a goal-setter is only one part of becoming an informed learner. Chapter 5 explores ways to move students beyond simply being skillful goal-setters to becoming actively involved goal-*getters*. These students know how to self-assess and make learning decisions based on the information they gather in order to direct and regulate their own learning.



# 5

## HELPING GOAL-SETTERS BECOME ACTIVE GOAL-GETTERS: The Role of Student Self-Assessment

**Assessing one's own work** results in increased learning; assessing a peer's work does not. Sadler and Good (2006) trained students to use rubrics to grade tests in their middle school science classes. Students who graded their own tests improved dramatically on a second, unannounced administration of the same test, whereas students who graded peers' tests did not gain significantly more on the second test than did a control group of students who did no grading at all.

Student self-assessment is not something that comes naturally to many. If you just ask students whether they understand something, many will say either "yes" (whether they do understand or not) or "I have no clue." Students can be taught, however, to use criteria to assess their work and then interpret what that self-assessment means for their next steps. The teacher needs to be skilled not only at teaching a skill (self-assessment) but also at interpreting student progress. Teachers who understand learning progressions with the material in question—how students typically do with this learning goal, how understanding typically develops, and what meaningful ways there are to chunk the task into smaller bites, if needed—will be better facilitators of student self-assessment than those who don't.

Remember that in Chapter 3 we said this same thing about giving feedback. Teacher feedback to students and student self-assessment are related activities. Both should compare student work against criteria for successful achievement of



a learning target. Both should lead to the student knowing some next steps for improvement. Teacher feedback does these things from the expert point of view, and student self-assessment does these things from the learner point of view.

### **What Is Student Self-Assessment?**

Student self-assessment, as we are using the term here, occurs when students review their own work and identify strengths and weaknesses for the purpose of improving performance. Students self-assess when they compare their work against their own conception of what they were trying to accomplish. Students identify their own strengths and weaknesses, decide how they are progressing on their way to a goal, and decide what they think they should do next.

Whether we should have considered student self-assessment before or after student goal setting is a chicken-and-egg matter. Sometimes students set goals and then monitor their progress toward them with self-assessment—the approach we took in this book by making goal setting the topic of Chapter 4 and self-assessment the topic of Chapter 5. However, the process is cyclical. Sometimes students assess their own work and then, as a result, decide to set a goal.

### **How Does Student Self-Assessment Affect Student Learning and Achievement?**

Student self-assessment offers students an opportunity to review their work and become more aware of their strengths, their progress, and the gaps in learning that still need to be addressed. Sometimes teachers use student self-assessment as a time-saver for grading tests. Although this chapter is about self-assessment for formative purposes, not grading, the Sadler and Good (2006) study we mentioned at the start of the chapter is worth reporting here. Students who graded their own science tests benefited, scoring higher on a second administration of the same test. Students who graded a peer's science test did not increase their achievement on the same test (Sadler & Good, 2006). In addition, in later reflection some students were able to voice the opinion that grading their own tests gave them a more positive attitude toward tests as providing useful feedback.

Self-assessment of the sort we are concerned with here is usually *not* for grading. It is a process that students do as part of their learning activities. To self-assess well, students need a clear concept of the learning goals and criteria, skill at recognizing these characteristics in their own work when they see them, and skill at translating their self-assessment judgments into action plans for improvement. These are skills that can, and should, be taught. Ross, Hogaboam-Gray, and Rolheiser (2002) found that 5th and 6th graders who received 12 weeks of self-evaluation training in mathematics increased mathematics problem-solving achievement, with an effect size (standardized difference) of .40 standard deviations, or the equivalent of moving from the 50th percentile to the 66th percentile on a standardized test.

Another study looked at the effects of reading a model writing assignment, generating a list of criteria for the assignment, and self-assessing according to a rubric for 3rd and 4th graders' family stories or persuasive essays. Students who participated in these activities wrote better stories and essays than students who simply generated a list of criteria and then were asked to review their first drafts (Andrade, Du, & Wang, 2008). The difference seemed to be systematic self-assessment using the criteria in the rubric. Just looking over the first draft was not enough.

### **What Common Misconceptions Might Teachers Hold About Student Self-Assessment?**

Teachers are likely to hold at least one common misconception about student self-assessment.

**Misconception #1: Student self-assessment means students grade their own work.** The most common misconception teachers might hold about student self-assessment isn't really a misconception at all but, rather, a misuse of the strategy. The misconception is, of course, that student self-assessment means students grading their own work. The kind of self-assessment we hold up as formative involves students reviewing their own work with an eye toward learning (a formative purpose), not grading (a summative purpose). Although students can learn from grading their own work, that is not what we are recommending. Rather,

we recommend that students routinely and systematically have the opportunity to look at their work and plan for improvement.

**Strategic talking points** school leaders can use to address this misconception include the following:

- Students need—and deserve—opportunities to practice with concepts and skills before they are graded. In a classroom instructional sequence, formative assessment fits better as part of practice than of graded assignments, where the concepts and skills should have been mastered already.
- Students will be able to focus on the substance of the work if they are free of the need to focus on what their grade is.

### **What Is the Motivation Connection?**

Many teachers are familiar with the concept called “self-efficacy,” a student’s perception that she can learn particular content or skills and will be successful in doing so. Self-evaluation contributes to self-efficacy, because it gives students a means by which they can accomplish goals by observing and interpreting their own performance. As the research indicates, “Students with greater confidence in their ability to accomplish the target task are more likely to visualize success than failure” (Ross et al., 2002, p. 45).

Self-assessment also helps students become self-regulated learners. Self-regulation is broader than self-efficacy. Most self-regulated learners do have self-efficacy, but they also have a habit of making sure they attend to their learning progress. They check to make sure they understand what they are supposed to do, plan and monitor their own work as they do it, assess their own progress, know when they need to ask questions, and give themselves their own internal rewards for achievement. They are actively engaged in collecting and interpreting assessment information. Information about their own progress helps them set more realistic and attainable goals for continuously raising achievement.

When teachers use formative assessment strategies well, they model for students how to do these things. Students gradually internalize the process. Self-regulation strategies can be taught, and they can be scaffolded for students who have difficulty learning them.



## **What Are Specific Strategies I Can Share with Teachers?**

The first strategy to share is about when *not* to ask students to self-assess. At the very beginning of studying a new concept or learning a new skill, when students' vision of the learning target is not well developed, teacher feedback takes precedence. Good teacher feedback models for students how to observe their work and how to evaluate it against criteria.

Once students have had some experience with a learning target, they are in a position to understand the criteria for good work more deeply—or even to develop a list of those criteria themselves—and to apply them thoughtfully. Figure 5.1 summarizes the strategies that we discuss in the following sections.

### **Teaching Self-Assessment**

To teach students self-assessment skills, the teacher should work with a learning target students already know something about. First, the teacher can involve students in developing their own criteria. This doesn't mean that students invent new criteria. Students who already know something about math problem solving (Ross et al., 2002), for example, or about writing (Andrade et al., 2008) usually come up with fairly typical lists when asked to generate a list of the important qualities of that kind of work. The main point is that they came up with these criteria themselves instead of receiving them from the teacher. Involvement is built in. The students must actively process what they know about the learning target—good problem solving, good writing, and so on—in order to do this.

The criteria are then “in mind,” and students' review of their work can be “mindful.” Students' first attempts at self-assessment may be too vague to be useful or may not focus on all relevant characteristics of the work. Teachers should give students timely, descriptive feedback on their self-assessments. They should ask students questions to clarify their thinking. For example, a teacher might use follow-up prompts like “Why?” or “Explain that” or “Tell me more about . . .” for both oral and written student self-assessment comments.

Teachers should also give students criteria for the actual self-assessment reflections. For example, a teacher of younger students might say that each reflection should include at least one sentence about a thought or feeling and at

**FIGURE 5.1**  
**Strategies for Student Self-Assessment**

General Strategy	Specific Tactics
Teaching Self-Assessment	<ul style="list-style-type: none"><li>• Students develop their own criteria or rubrics or are given criteria or rubrics by the teacher.</li><li>• Students use criteria or rubrics to assess their own work.</li><li>• Teachers give students feedback on the quality of their self-assessments.</li><li>• Teachers give students opportunities to practice self-assessment regularly.</li></ul>
Rubrics and Highlighters	<ul style="list-style-type: none"><li>• Students highlight portions of rubrics that they think apply to their work.</li><li>• Teachers highlight portions of rubrics that apply to students' work.</li></ul>
Indicator Systems	<ul style="list-style-type: none"><li>• Students provide information about their understanding by using signals or response systems:<ul style="list-style-type: none"><li>- Happy/sad faces or red/green traffic lights</li><li>- Letter cards (<i>A, B, C, D</i>) for multiple-choice questions</li><li>- True/false or yes/no questions with physical movement</li><li>- Individual whiteboards</li><li>- "Most clear" and "least clear" cards</li></ul></li></ul>
Self-Assessment Before and After Tests	<ul style="list-style-type: none"><li>• Students generate practice test questions and use them for studying.</li><li>• Students plan study for a test by evaluating what they understand and what they don't understand.</li><li>• Students assess their test results, looking for patterns in performance.</li><li>• Students graph progress on repeated tests and reflect.</li></ul>
Self-Assessment of Effort	<ul style="list-style-type: none"><li>• Students judge levels of effort for an assignment, with separate considerations for time, concentration, and care.</li><li>• Students assess their use of strategies after an assignment.</li></ul>

least one sentence telling why. More general criteria for student self-assessment might be that reflections should

- Be relevant.
- Be thoughtful.
- Be clearly expressed.
- Give reasons.
- Include a “so what” (what to do next to use the insights).

And finally, teachers should give students plenty of practice at self-assessment. Daily journals, exit tickets, or other opportunities for reflection should become routine.

### **Rubrics and Highlighters**

When students self-assess their written work using rubrics, a helpful strategy is to have them use a highlighter to highlight key phrases in the rubric that they think describe their work and then use the same color highlighter to mark in their drafts the evidence that they have met the highlighted standard. For example, if a student highlighted “clearly states an opinion” in a rubric for a persuasive essay, that student would also highlight the opinion in the draft (Andrade et al., 2008). An important next step should follow for places where students find they need improvement. Students should write reminders for themselves about where they did not find a match between their work and the rubrics and use that information when revising their work. Although this example is about writing, a similar process can be used with rubrics for math problem solving, social studies and science projects, and other student work.

Chappuis (2005) describes a variation on this strategy. Students highlight in yellow the portions of a rubric they think describe their work and then turn the work in. The teacher highlights the same rubric in blue for each student. Where the colors overlap, indicating student-teacher agreement, the highlight will be green. Areas that are just yellow or just blue represent areas where students need to rethink their understanding of the criteria. Or they may be areas that could inspire productive conversations between teacher and student.

## Indicator Systems

stickers

Self-assessment can be more immediate and less comprehensive than what is required for reviews of major pieces of work. Indicator systems can help students give teachers information about what they understand and don't understand, or where they get stuck doing an assignment. Teachers can use this information to affirm understanding and clarify misconceptions in a just-in-time fashion: students get the information just when they are thinking about it and need it.

Some formative assessment strategies using indicator systems have become fairly common. Here are some examples:

- **Happy/sad faces or red/green light cards** can help students indicate whether they are understanding a lesson as it progresses. Students can turn up the sad face or the red light side of the card when they feel stuck or need help.
- **Letter cards (A, B, C, D)** can be used to check understanding by having students hold them up to indicate their response to multiple-choice questions. Follow-ups can include calling on students (before the teacher gives the correct answer) to explain the reason for their choice or grouping students and having them try to convince others of the correctness of their answer.
- **True/false or yes/no questions** with answers indicated by raising a hand or some other kind of physical response (e.g., *Stand up if you think the cork will float*) is a variation of the letter-card strategy that works well with younger children.
- **Individual whiteboards** can be used for seeing how all students, not just a few who are called on, answer questions or problems. Students hold up their whiteboards so the teacher can see their responses.
- **"Most clear" and "least clear" cards** are a way for students to identify the most and least clear points after a lesson, using index cards or another easy-to-handle medium. The teacher collects the cards and uses the information to adjust instruction. Variations include asking students to identify "the sticking point" or "one thing I'm sure I know" or "one thing I'd like to know more about."

Indicator systems require that students assess their own understanding of what is happening in class. The effectiveness of an indicator system depends on both the quality of the students' self-assessment and the appropriateness of the teacher's responses. None of these systems work unless the information they generate is *used*. For example, it does a student no good to display a sad-face indicator unless the teacher notices this, talks with the student, and addresses the source of confusion. It is the use of the information that is formative, not the indicator itself.

### Self-Assessment Before and After Tests

A variety of strategies can help students use information about their understanding and the quality of their work to set goals and to organize their studying.

Before a test is given, students can generate their own practice test questions. Teachers can give students the test blueprint (an outline of how many questions of various kinds and content will be on the test) and ask them to write at least one "fact" question and one "reasoning" question for each area. Students can share questions in class and use them for studying for the test. The act of writing the questions is itself an aid to comprehension. Phrasing the question will make students think about the concept.

Self-reflection sheets can include columns for planning how to study for a test. For example, students can make columns labeled "I get it" and "I don't get it." For Column 1 ("I get it"), they plan to review before the test; for Column 2 ("I don't get it"), they plan how they will learn the material. Homework sheets, home-help sheets, or logs can include, as appropriate, topic, time, place, helper (such as a parent or a friend), and resources (such as books or notes).

After a test, students can go over their own tests, noting which questions they got wrong and whether it was a careless error or a true misunderstanding. Students can use this information to plan future work. Strategies for addressing careless errors include taking more time and checking work. Strategies for addressing misunderstandings include reviewing notes, books, or other class materials and asking for help if the concept still isn't clear.

For repeated lessons, students can keep charts or graphs of progress or use other self-monitoring strategies and reflect on them. A very successful formative

assessment effort in this regard happened in two 3rd grade classes and was, in fact, designed by a student teacher. She first called the strategy “GPAR” (for Goal, Plan, Action, Reflection), but we ended up calling it “Minute Math.” The students were learning their multiplication facts. Each week for 10 weeks, they were to take a 100-fact timed test to see how many multiplication facts they could get right in five minutes. This, of course, is a rote-memory activity. The student teacher’s strategy changed it into a higher-order activity that involved teaching students self-monitoring and self-regulation strategies. Students predicted how they would do and graphed their predictions on bar graphs (see Figure 5.2). After the test, they graphed their actual score and completed a reflection sheet (like the one in Figure 5.3) that included questions about their goal for the next week’s test and their plan for achieving it. Student predictions were accurate, on average, and became more accurate with time, although there was great variability in accuracy.

Many students overpredicted their achievement for the first week and then became more accurate over time. Some students learned all the facts before the 10 weeks were over and decided that they would try to beat the clock, predicting, for example, that they could do the problems in four-and-a-half minutes the next week. A side effect that one of the 3rd grade teachers noticed was that she thought her students became better at making and interpreting bar graphs because of the Minute Math project.

The other 3rd grade teacher didn’t like the GPAR reflection sheet in Figure 5.3, the one designed by her colleague’s student teacher. This teacher made a version that was more like a worksheet and required less student writing and thinking—that is, less active student self-assessment. Although the project helped with student achievement in both classes (most students did reach 100 percent attainment of the learning goal), students in this second class did not do as well overall with their multiplication facts. The classroom environment was key. Genuine reflection was more supported in the first classroom. Getting the task accomplished—filling in the form easily and correctly—was more of the emphasis in the other classroom.

For the most part, students enjoyed participating in self-assessment. Students liked seeing their “steps,” as they called their progress on the graphs. Student comments in the self-reflections indicated an orientation toward goal mastery. Student achievement was high (Brookhart, Andolina, Zuza, & Furman, 2004). This

h"

Date \_\_\_\_\_

ive minutes.

100 facts correct on my next test. I need to

rting \_\_\_\_\_ I will use these study strategies to  
multiplication games, study with parents, etc.);

lith your plan? What happened? Did you see

**FIGURE 5.3**  
**Reflection Sheet for "Minute"**

Name \_\_\_\_\_

**GOAL:** What do you want to learn?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Right now I can do \_\_\_\_\_ facts in f.

**PLAN:** My goal is to get \_\_\_\_ out of  
improve in  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ACTION:** When will you begin? Start  
improve (study flash cards, play m  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**RESULTS:** Did you follow through w  
improvements?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_